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Vol. 13

# BOARD OF NATURAL RESOURCES

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STATE OF MONTANA  
BEFORE THE BOARD OF  
NATURAL RESOURCES AND CONSERVATION

\* \* \* \* \*

IN THE MATTER OF THE PUBLIC HEARING ON WAIVERS  
AND THE APPLICATION FOR CERTIFICATE OF ENVIRON-  
MENTAL COMPATIBILITY AND PUBLIC NEED FOR THE  
PROPOSED COLSTRIP PROJECT, UNITS 3 & 4, WHEREIN  
THE APPLICANTS FOR SAID WAIVERS AND APPLICATION  
ARE PUGET SOUND POWER & LIGHT COMPANY, PORTLAND  
GENERAL ELECTRIC COMPANY, WASHINGTON WATER  
POWER COMPANY, PACIFIC POWER & LIGHT COMPANY,  
AND THE MONTANA POWER COMPANY.

\* \* \* \* \*

MONDAY, JANUARY 19, 1976

The hearing before the Board of Natural Resources and Conser-  
vation reconvened at 10:10 A.M. on January 19, 1976, in the Chambers  
of the Montana House of Representatives, State Capitol Building,  
Helena, Montana.

The Honorable Carl M. Davis, Hearings Examiner, presided over  
the proceedings.

APPEARANCES:

Applicants:

John L. Peterson, Esq.

1 William M. Bellingham, Esq.  
2 John Ross, Esq.

3 Department of Natural Resources and Conservation:

4 Arden E. Shenker, Esq.  
5 Robert T. Cummins, Esq.  
6 Donald MacIntyre, Esq.  
7 Ted J. Doney, Esq.

8 Northern Plains Resource Council:

9 Leo Graybill, Jr., Esq.

10 Department of Health and Environmental Sciences:

11 G. Steven Brown, Esq.

12 Northern Cheyenne Tribe, Inc.:

13 Peter Michael Meloy, Esq.

14 The following proceedings were had:

15 HEARINGS EXAMINER: Are the parties ready to  
16 proceed?

17 MR. BELLINGHAM: Applicants are ready, sir.

18 MR. SHENKER: The Department of Natural Resources is  
19 ready.

20 MR. BROWN: The Department of Health is ready.

21 HEARINGS EXAMINER: It appears that that is all  
22 that is here right at the moment. This is the time fixed  
23 to reconvene our hearing before the Board of Natural  
24 Resources and Conservation, which was adjourned June 5th,  
25 1975. Let the record show that Mr. Graybill is present  
26 and Mr. Meloy, too. You gentlemen are ready, I guess,  
27 aren't you? (RESPONSE.) We'll proceed according to the  
28 same rules which we were acting under.

1 MR. BELLINGHAM: Sir, I'm sure that you didn't want  
2 to slight Mr. Brown --

3 HEARINGS EXAMINER: I'm sorry, Steve. Yes, he said  
4 he was ready. The same rules we used before other than  
5 is modified by the order that I sent you all a copy of,  
6 dated December 10th, 1975, in which we adopted a written  
7 statement and the cross-examination procedure you're all  
8 familiar with. I'd like to make this order for the  
9 record, Board Exhibit #79. And as a housekeeping chore,  
10 I do have a motion that's been filed with the Board of  
11 Natural Resources by the Northern Plains Resource Council  
12 on certification; and I'll make a copy of that Board  
13 Exhibit #80. And then the Department of Natural Resources  
14 filed a motion regarding certification. I'll make a copy  
15 of that Exhibit #81. Then I've got an order, an affidavit  
16 of publication of the time to reconvene, and I'll make  
17 that #82; if that's agreeable with everybody. I know  
18 that your original order went to the Board, Mr. Shenker  
19 and Mr. Graybill, but I think probably we should get a  
20 copy in the record here as a board exhibit.

21 MR. GRAYBILL: That will be agreeable with me, your  
22 honor.

23 MR. SHENKER: Are these original motions, Mr. Davis?

24 HEARINGS EXAMINER: Well, if we don't get the  
25 original, we'll get a copy, because sometimes we should  
26 have this record intact, I presume.

27 MR. SHENKER: Fine.

28 HEARINGS EXAMINER: Now, before we proceed with the



1 witness this morning, let's clear up any housekeeping  
2 matters that may be pending. And who wants to start?  
3 Mr. Graybill is on his feet.

4 MR. GRAYBILL: Thank you, Mr. Hearings Examiner.  
5 I intend to attend the hearing to cross-examine, primarily,  
6 on the transmission lines; some on other things, and I  
7 may not be here sometimes. However, Mr. Mueller is going  
8 to be in Helena all the time, I would appreciate it if  
9 all exhibits and all modifications and all notices and  
10 letters, garbage of all kinds, be placed on this desk and  
11 a kid will pick it up and file it. So even if I'm not  
12 here, I'd appreciate getting a copy of it. I have big  
13 gaps in my exhibits from last time and I recognize it may  
14 be worse this time.

15 MR. BELLINGHAM: Let the record show, we will miss  
16 you, Bill.

17 MR. GRAYBILL: Well, don't let it show it too early,  
18 because you might not. Thank you.

19 HEARINGS EXAMINER: Mr. Peterson?

20 MR. PETERSON: We, on behalf of the Applicants, filed  
21 a motion with the Board of Natural Resources last Thursday  
22 in opposition to the motions on decertification filed by  
23 the Northern Plains Resource Council and the Department  
24 of Natural Resources, and we would like to have a copy of  
25 that included in the record as an exhibit.

26 HEARINGS EXAMINER: Very well. The Applicants'  
27 motion will be Board of Natural Resources Exhibit #83.  
28 Is there anything else that you want to -- Mr. Graybill?

1 MR. GRAYBILL: I didn't get that. You said it would  
2 be what?

3 HEARINGS EXAMINER: Board Exhibit #83.

4 MR. GRAYBILL: What's 82?

5 HEARINGS EXAMINER: 82 would be the order that I  
6 published of reconvening the hearing and I'll put the  
7 affidavits of publication in that too so I'll have a place  
8 to put them. Time of commencings -- some people have  
9 asked me about the time that you could start in the morn-  
10 ing, and, Mr. Shenker, did you have any thoughts on that?

11 MR. SHENKER: No strong ones, Mr. Davis, but it  
12 occurs to me that since all of us who are participating  
13 in these hearings are here in Helena throughout the week,  
14 that during the mid-week, Tuesday, Wednesday, Thursday and  
15 Friday, when all are in residence, we might be able to  
16 start a little earlier than we have been in order to  
17 move the hearing along. I'd be certainly willing on my  
18 part, but I don't want to impose my views on the others.

19 HEARINGS EXAMINER: I would -- my thought on that  
20 would be this: It seems that the most economical way to  
21 run this thing is to not cause everyone to come back here  
22 for another day's motel and expense on Sunday night to  
23 start Monday morning, when you can all fly in Monday  
24 morning. So, if it's agreeable with everyone, we could  
25 pick up the time we lose if we start at 8:30 in the morn-  
26 ing when we can. I would keep that flexible because  
27 witnesses also have schedules; and then we wouldn't start  
28 until 12:00 on Mondays. Would that be a fair trade-off

1 for everybody? (AGREED.) And I also understand that  
2 there may be times when the time 8:30 is too early, and  
3 if it is, just call it to my attention, because 9 to 5 is  
4 a pretty full day's work in this type of business.  
5 Alright, let's try to do that then. We'll start at 8:30,  
6 starting in the morning. If witnesses aren't available,  
7 please let me know and we'll run from 8:30 until noon.  
8 I still think we need an hour and a half at noon, probably,  
9 or an hour and fifteen minutes, don't you? Let's make it  
10 until 1:30, then, because you have to regroup your wit-  
11 nesses and go over your material and get your exhibits  
12 straightened out, and it usually takes about that long.  
13 Then we'll run from 1:30 until 5:00 or later, if we need  
14 to. Is there any -- Mr. Bellingham?

15 MR. BELLINGHAM: Sir, I would like to make a state-  
16 ment relative to exhibits and statements. My understand-  
17 ing is that Applicants, by the due date, had forwarded to  
18 all opposing counsel, all exhibits and statements of wit-  
19 nesses which they intended to introduce. This was by  
20 January 10, 1975, with the exception of one Harold  
21 Beisel, his statement and exhibit. Now, as far as I know  
22 to date, I have received a copy of one statement from  
23 opposing counsel, consisting of one page and some thirteen  
24 lines. I don't know if there has been any others mailed  
25 or not, and I've not received them, but that is the status  
26 of the record at this time as I see it.

27 HEARINGS EXAMINER: Very well. Let's find out what  
28 anyone knows as far as where they are on their statements.



1 Mr. Shenker, what's your plan on statements and exhibits?

2 MR. SHENKER: As I advised the Hearings Examiner and  
3 counsel for the Applicants and counsel for all other  
4 opponents previously, the statements on behalf of the  
5 DNR are in the mill. We hope to have at least two state-  
6 ments available for delivery today. We will be deliver-  
7 ing them all week. The rule entered by the Hearings  
8 Examiner with respect to the schedule for filing of state-  
9 ments, of course, made explicit reference to the need for  
10 flexibility; and our specific concern as an opponent is  
11 the difficulty of having a witness on our behalf prepare  
12 a statement to meet the Applicants' contentions or state-  
13 ments of evidence without having those statements of  
14 evidence in hand first. And, of course, a number of wit-  
15 nesses had precisely that kind of concern. We expect that  
16 we will have all of our statements in the hands of the  
17 Applicants in more time before they have to cross-examine  
18 our witnesses, than we had their statements prior to today.

19 HEARINGS EXAMINER: I would like something more  
20 specific than more time. Now, they put their's in by the  
21 10th. You've had copies of their written statements to  
22 review and study and analyze, and I think we're going to  
23 have to pin this down somewhere down the line as to what  
24 you've got to meet. Now, that's been there for a week.  
25 How much more time do you contemplate; I mean, what are  
26 you thinking about in your mind when you say, "more time,"  
27 because I don't know?

28 MR. SHENKER: Well, what I meant is that they're



1 going to have a better break than we are, Mr. Davis.  
2 What I meant is, they had their exhibits to us less than  
3 one week before we had to start examining. What I meant  
4 is -- mean is -- that they will have our exhibits and  
5 statements more than one week, that's more time, before  
6 they have to examine our witnesses.

7 HEARINGS EXAMINER: That wasn't my rule, though.  
8 When is your idea of when you think you can get them in;  
9 I mean, if you know?

10 MR. SHENKER: I don't know the specific answer to  
11 the question, but I have some guesses. We'll have two or  
12 three statements in today; we'll have another three or  
13 four statements in tomorrow or the next day. By the end  
14 of this week we should have better than half the state-  
15 ments in hand. By the end of the following week, we should  
16 have practically all of the statements delivered. There  
17 are one or two statements, I know, in which the witnesses  
18 did not have the opportunity to commence their work, in  
19 all practical effect, until they received copies of the  
20 Applicants' statement. That would be some time after the  
21 14th of January. We didn't receive copies until the 12th  
22 of January. We could only put them in the hands of the  
23 witnesses on the 14th. I suspect there may be one state-  
24 ment served as late as the 2nd of February.

25 HEARINGS EXAMINER: Before we adjourn for the week  
26 of the 2nd -- isn't that the week we're not going to  
27 work? It seems to me that all statements should be served  
28 by the time we get to that point. That's the time when

1 people have a chance to do some outside work. I can't  
2 see the hardship -- too much of a hardship prior to that  
3 time.

4 MR. SHENKER: Well, I certainly have that goal in  
5 mind, but I would like to have them in before that. I  
6 instructed all of our witnesses as to what the time sched-  
7 ule was; I sent them the order of the Hearings Examiner.  
8 I also instructed the witnesses of my conversations with  
9 the Hearings Examiner and counsel for the Applicants  
10 with respect to the need for flexibility. And a number  
11 of the witnesses did specifically say to me, I'm going to  
12 have to look at the Applicants' statement that you've  
13 asked me to look at before I prepare my testimony. That  
14 seems reasonable.

15 HEARINGS EXAMINER: Well, would it seem reasonable  
16 to try to get them in prior to the time we have that week's  
17 continuance?

18 MR. SHENKER: Yes.

19 HEARINGS EXAMINER: How many witnesses, now, as near  
20 as you know, on the list that you gave me; do you have any  
21 idea how many of those will be called at this time? Is  
22 that list still about the same as it was or --

23 MR. SHENKER: No.

24 HEARINGS EXAMINER: --will it be cut down?

25 MR. SHENKER: It is cut in about half, I would say.  
26 Did you want to go through those now, Mr. Davis?

27 HEARINGS EXAMINER: No, I don't think so. Just a  
28 rough idea so we can plan -- one of my problems seems to

1 be, I need to notify the public parties when they can  
2 appear; and that kind of constitutes a problem for their  
3 planning, too, because the lawyers ought to be able to  
4 program it. And perhaps we can, when we get to that  
5 point, if parties are available, I will try to work them  
6 in while they are here; and I wish you would try to think  
7 about that a little.

8 MR. BELLINGHAM: Sir, if Mr. Shenker does have an  
9 updated list of the witnesses, I would appreciate knowing  
10 about it. If he could just tell us what ones he does not  
11 intend to call, that would help.

12 HEARINGS EXAMINER: Can you do that off the record  
13 when you get the chance. I mean, if there's some that  
14 you've eliminated, and then --

15 MR. SHENKER: Sure, I'd be glad to.

16 HEARINGS EXAMINER: Mr. Brown, you've filed the  
17 statement of one witness, and it is my understanding, on  
18 behalf of the Department of Health, that's the only one  
19 that you're going to be using at this time, as far as you  
20 know?

21 MR. BROWN: That's correct, Mr. Davis.

22 HEARINGS EXAMINER: Thank you. Mr. Graybill, what's  
23 your situation on written statements?

24 MR. GRAYBILL: Well, we've commenced work on them,  
25 and as I've told the Hearings Officer when I discussed  
26 this by telephone in early December, it's impossible for  
27 us to get them done by now. I think that we will be  
28 through with our statements longer ahead of time than



1       either of the other two parties, but I don't think we'll  
2       be through with them before the recess. I don't see any  
3       point in having them before the recess as far as ours is  
4       concerned, because I'm just sure we're quite a way down  
5       the road. We have a man working on them right now to  
6       have everybody get his statements in.

7               HEARINGS EXAMINER: Well, could you strive to get  
8       them in, or give them some sort of an encourage to get  
9       them in before the recess?

10              MR. GRAYBILL: I think we may have some in before  
11       the recess. I'd like to know a little about the recess.  
12       I've heard a rumor, but I have never been appraised of  
13       what we're talking about.

14              HEARINGS EXAMINER: Alright. We're going to run for  
15       two weeks, then we're going to recess for a week and  
16       reconvene and proceed then.

17              MR. GRAYBILL: Recess from when to when?

18              HEARINGS EXAMINER: The week of Monday, February 2nd,  
19       to the 6th, I guess it would be.

20              MR. GRAYBILL: I see. Okay, then, I think that the  
21       Hearings Officer should be aware of another thing. The  
22       Montana Power's lawyers have me scheduled to try a major  
23       condemnation case about that time, and they don't relent  
24       at all on that. I'm apparently going to try three things  
25       at once here. So, I just want you to be aware that that's  
26       coming down the plank. I think it's February 8th or 10th  
27       that we're supposed to start a condemnation hearing for  
28       this project in Forsyth, and I am unable to get any change

1 on that.

2 HEARINGS EXAMINER: Mr. Meloy?

3 MR. MELOY: Mr. Davis, we have 16 witnesses on our  
4 list. We intend to call at least 13 of those witnesses.  
5 I can discuss with the counsel for the Applicants which  
6 three of the 16 we probably will not call. With regard to  
7 statements, I received from the Applicants their testimony  
8 on Tuesday last -- Wednesday, Thursday, Friday -- three  
9 working days prior to today's commencement. If we are to  
10 have our statements in by the 2nd of February, by my best  
11 calculation, that will likely be somewhere in the neigh-  
12 borhood of three weeks before we commence our case-in-  
13 chief. We will try to get our written statements in by  
14 the 2nd, Mr. Davis, but let the record note that the  
15 Applicants will have a bit more time to read our statements  
16 and prepare their cross-examination than did we.

17 HEARINGS EXAMINER: I believe I was advised that you  
18 were going to try to schedule the witnesses for Mr.  
19 Hilley's clients on the week of the 9th?

20 MR. PETERSON: I was just going to mention that.  
21 Mr. Hilley's two or three witnesses will be testifying  
22 on February the 10th.

23 HEARINGS EXAMINER: And you can put them in what  
24 order?

25 MR. PETERSON: I don't know.

26 HEARINGS EXAMINER: Well, I mean, even if you're not  
27 through with your case, you'd put them in at that time  
28 out of order?

1 MR. PETERSON: Yes.

2 HEARINGS EXAMINER: Alright, now, I've received at  
3 least one letter from Senator Thiessen that said he was  
4 going to be in Helena on the 23rd, I think it was, of  
5 February, and wondered if he could put his testimony in  
6 then. I think if we have those situations, I'd like to  
7 be able to answer them and say yes; and if it's agreeable  
8 with counsel, we could put in some of these public wit-  
9 nesses when they arrive. Mr. Graybill

10 MR. GRAYBILL: Mr. Hearings Examiner, it seems to  
11 me that when we set up the original rules, we made the  
12 provision that any afternoon when the Hearings Officer  
13 knew there was someone that wanted to testify, you could  
14 break off the hearing before closing time and let the  
15 public party testify. That's my recollection of the way  
16 the rules are intended to work, so I don't see any problem  
17 with him; and I've advised a good many people who have  
18 asked my plans, and some of them may come in from time to  
19 time and ask for the privilege of making a short state-  
20 ment or presenting their letter and being available for  
21 cross-examination; and I've told them that most any reason-  
22 able day with some notice, the Hearing Officer would be  
23 able to do that. Isn't that true?

24 HEARINGS EXAMINER: I would sure like to be able to  
25 do it that way if there's no objections, if it's not too  
26 disruptive of the other witnesses. Mr. Bellingham?

27 MR. BELLINGHAM: This is entirely satisfactory to us.

28 HEARINGS EXAMINER: Well, it seems to me that would



1           be a sensible way to handle it if we can.

2           MR. BELLINGHAM: I might mention in regard to Mr.  
3 Meloy's statement that he did not receive a statement  
4 until Tuesday, those were mailed out Friday, I know.

5           HEARINGS EXAMINER: The prior Friday?

6           MR. BELLINGHAM: Yes.

7           HEARINGS EXAMINER: Well, mailing being what it is,  
8 that's very possible.

9           MR. MELOY: Mr. Davis, with regard to public witnesses  
10 who may come wishing to testify some time during our  
11 proceeding, I made a motion at the very outset of this  
12 hearing that part of the hearing would be held in Billings.  
13 I intend to renew that motion when we know better what  
14 time the Northern Cheyenne and -- I'm not speaking for  
15 the Northern Plains people, but they also have some wit-  
16 nesses from that part of the country. At least when the  
17 Northern Cheyenne time comes to present it's testimony,  
18 I will request the Hearings Examiner to consider my  
19 motion; maybe at that time for those folks who want to  
20 come and testify, it may be more convenient for them to  
21 come to Billings as opposed to Helena. Senator Thiessen  
22 is a good example. He's got to come to Helena for other  
23 business, I know, but he lives in that part of the state,  
24 and if he knew the hearing was going to be held in Billings,  
25 he might wait to do it there. So, this is just for the  
26 record, Mr. Davis. Thank you.

27           HEARINGS EXAMINER: Thank you. And that's a motion  
28 that's still pending, that we took under advisement to



1 look at down the road, and we'll still treat it as being  
2 under advisement until we see what our situation is when  
3 we get close to it. Is there anything further? (NO  
4 RESPONSE.) Very well, call your witness.

5 MR. BELLINGHAM: The Applicants will call Roger  
6 Hofacker.

7  
8 ROGER A. HOFACKER, called as a witness for the continuation of  
9 his testimony, having been first duly sworn upon his oath, both  
10 as to his written statement and his oral examination to follow,  
11 was examined and testified as follows:

12  
13 (THE WRITTEN STATEMENT OF TESTIMONY OF MR. HOFACKER  
14 IS INSERTED HEREWITH.)

1 STATEMENT OF TESTIMONY OF

2 ROGER A. HOFACKER

3 I am the same Roger A. Hofacker who testified earlier in  
4 these hearings. Since my earlier testimony, my title with The  
5 Montana Power Company has changed, and I am now Vice President-  
6 Engineering.

7 Since the presentation of my testimony during the initial  
8 stages of this hearing early last summer, much time has passed  
9 and changes have occurred which necessitate changing certain  
10 data in the exhibits of record and proposed exhibits to assure  
11 a clear and accurate analysis of the need for power from Colstrip  
12 Units 3 and 4. Such changes have affected the data of all five  
13 participants in the Colstrip project.

14 The changes I refer to fall generally into three main  
15 areas: (1) the timing of new planned resources, (2) changes in  
16 resource contracts among the participants and other utilities,  
17 and (3) new load forecasts by most of the participants.

18 The electric utility business is never static and it would  
19 be extremely unusual if some planning parameters did not change  
20 over a 6 to 9 month period, such as from last spring when these  
21 hearings commenced, to the present. Thus, since last spring it  
22 has become certain that several new electric plants planned by  
23 the participants have experienced changes in their scheduled  
24 completion dates. Because of the length of these hearings,  
25 Colstrip Units 3 and 4 cannot now be completed before 1980 and  
26 1981, respectively. This represents another year's delay from  
27 that predicted last spring when the exhibits for this hearing  
28 were prepared. Similarly, several other plants in which various

1 participants have an interest are now rescheduled.

2 Several new contracts for power purchases and sales have  
3 been negotiated by various applicants since last spring. Many  
4 of these cover time periods ending prior to the scheduled dates  
5 for Colstrip 3 and 4 and thus do not affect the need for the  
6 Colstrip plants, but the exhibits would be incorrect if these  
7 new contracts were not properly shown therein. Some changes in  
8 contracts pertain to withdrawals from various applicants of their  
9 entitlements to the output of joint hydro projects by the owners  
10 thereof.

11 Most of the applicants have also changed their load fore-  
12 casts since last spring to properly reflect new developments on  
13 their systems. Load forecasting includes a continual review or  
14 monitoring process and generally results in changing forecasts  
15 at least once each year. Four of the participants have just  
16 recently prepared new annual forecasts for the West Group Forecast  
17 and The Montana Power Company has revised its forecast. These  
18 new forecasts are reflected in the changed exhibits.

19 Most of the exhibits which were received into evidence  
20 during my previous testimony and those exhibits which were  
21 offered into evidence but upon which the hearings examiner  
22 reserved his ruling as to admissibility pending further evidence  
23 have been modified. In order to insure a minimum of confusion,  
24 exhibits which have been modified and which replace old exhibits  
25 contain a notation in the lower right corner to the effect that  
26 they supersede the old exhibits.

27 Previous exhibits which have been superseded by new  
28 exhibits as well as the new exhibit numbers follow:



OLD EXHIBIT NUMBER

SUPERSEDED BY  
NEW EXHIBIT NUMBER

3	3C
3A	3D
3B	3E
4	4C
4A	4D
4B	4E
5	5B
5A	5C
6	6B
6A	6C
7	7B
7A	7C
8	8B
8A	8C
9	9A
10	10A

The new exhibits which replace the old ones in my testimony follow the same form as the previous ones; accordingly, it would appear superfluous to go into detail as to each individual exhibit. However, pertinent information contained in the various exhibits will be commented upon. All of the exhibits offered into evidence through this statement of testimony were prepared under my supervision, direction and control and are true and correct. The following exhibits, all of which show totals of the applicants' resources and loads, have been prepared from information contained in the exhibits appearing in the second column:

EXHIBIT NUMBER

PREPARED FROM  
EXHIBITS NUMBERED

3C	5B, 6B, 18B, 19, 20B, 21B
3D	3C
3E	3C
4C	7B, 8B, 18B, 19, 20B, 21B
4D	4C
4E	4C

Applicants' Exhibit No. 3C, titled "Colstrip 3 and 4 Participants' Loads and Resources (Excluding Units 3 and 4)" is a table showing the estimated combined resources and loads of

1 the five applicants in this hearing, excluding Units 3 and 4.  
2 The exhibit covers both peak and average energy and gives the  
3 estimated surplus or deficit of the net resources compared to  
4 the total load, maintenance and reserves for the years from  
5 1975-76 through 1985-86. The figures in Exhibit 3C (as is true of  
6 all the exhibits) refer to megawatts, and figures in parentheses  
7 marks indicate a deficit as distinguished from a surplus. The  
8 year as indicated in all exhibits starts with July 1 and ends  
9 on June 30 of the following year; that is, 1975-76 means July 1,  
10 1975 through June 30, 1976.

11 Exhibit 3C indicates composite surplus of peak until 1982-83,  
12 where a deficit of 855 megawatts is indicated. A deficit  
13 continues for each year thereafter with the greatest deficit  
14 being 2,536 megawatts in 1985-86. The exhibit also indicates a  
15 composite surplus of energy for the years 1976-77 and 1977-78,  
16 with deficits indicated for all other years, the largest one being  
17 a deficit of 1,764 megawatts for the year 1982-83. In the years  
18 1980-81 and 1981-82, when Colstrip Units 3 and 4 are scheduled  
19 to come on line, these deficits amount to 831 and 1214 megawatts,  
20 respectively.

21 Applicants' Exhibit No. 3D, titled "Colstrip 3 and 4  
22 Participants' Peak Loads and Resources (Excluding Units 3 and 4)"  
23 is a bar graph giving the same information in graph form that is  
24 contained in Exhibit 3C as to the composite peak resources and  
25 loads of the Applicants excluding Units 3 and 4. As in the other  
26 bar graphs in the participants' series of exhibits, the resources  
27 for each year are shown by the left bar and loads and reserves are  
28 shown by the right bar. As in Exhibit 3C, Exhibit 3D indicates



1 a composite deficit of the participants as to peak for the years  
2 commencing with 1982-83 through 1985-86 excluding Units 3 and 4.

3 Applicants' Exhibit No. 3E, titled "Colstrip 3 and 4  
4 Participants' Energy Loads and Resources (Excluding Units 3 and 4)"  
5 is a bar graph giving the same information in graph form that is  
6 contained in Exhibit 3C as to the composite average energy  
7 resources and loads of the applicants, excluding Units 3 and 4.  
8 As in Exhibit 3C, Exhibit 3E indicates a composite average energy  
9 deficit for the applicants in all years with the exception of  
10 1976-77 and 1977-78, excluding Units 3 and 4.

11 Applicants' Exhibit No. 4C, titled "Colstrip 3 and 4  
12 Participants' Loads and Resources (Including Units 3 and 4)" is  
13 a table showing the estimated combined resources and loads of the  
14 five applicants in this hearing including Units 3 and 4. The  
15 exhibit covers both peak and average energy and gives the estimated  
16 surplus or deficit of the net resources compared to the total  
17 load, maintenance and reserves for the years from 1975-76 through  
18 1985-86. The exhibit is similar to Exhibit 3C except that  
19 Exhibit 4C includes Units 3 and 4 whereas Exhibit 3C excludes  
20 Units 3 and 4. The exhibit indicates composite deficits for  
21 seven out of the eleven years covered. Even with Colstrip 3 and 4  
22 coming on line in 1980 and 1981, there will be a composite deficit  
23 in average energy in four out of the six years shown in the  
24 exhibit, commencing with 1980-81, the greatest deficit in any  
25 one year being 723 megawatts in 1982-83. Critical years prior to  
26 Units 3 and 4 coming on line are 1978-79 and 1979-80, where  
27 deficits of 407 megawatts and 883 megawatts are indicated,  
28 respectively. Exhibit 4C also indicates peak composite deficits

1 of 281 megawatts in 1984-85 and 1,295 megawatts in 1985-86, even  
2 with Colstrip Units 3 and 4 coming on line.

3 Applicants' Exhibit No. 4D, titled "Colstrip 3 and 4  
4 Participants' Peak Loads and Resources (Including Units 3 and 4)"  
5 is a bar graph giving the same information in graph form that is  
6 contained in Exhibit 4C as to the composite peak resources and  
7 loads of the applicants, including Units 3 and 4. As in Exhibit 4C,  
8 Exhibit 4D indicates a composite deficit of the participants as  
9 to peak for the years 1984-85 and 1985-86, even with Units 3 and  
10 4 coming on line.

11 Applicants' Exhibit No. 4E, titled "Colstrip 3 and 4  
12 Participants' Energy Loads and Resources (Including Units 3 and 4)"  
13 is a bar graph giving the same information in graph form that is  
14 contained in Exhibit 4C as to the composite average energy of the  
15 applicants including Units 3 and 4. As in Exhibit 4C, Exhibit 4E  
16 indicates there will be composite average energy deficits for all  
17 years after Units 3 and 4 come on line with the exception of  
18 1983-84 and 1984-85.

19 Summing up the five participants' composite load forecast  
20 as set forth in the above-described exhibits, we find an increase  
21 in average energy of 5.8% per year compounded over the 10-year  
22 period from 1975-76 through 1985-86, and, an increase in peak  
23 of 5.8% per year compounded over the same 10-year period.

24 Turning next to The Montana Power Company's exhibits  
25 dealing with the forecast of its loads and resources (Exhibits  
26 Nos. 5B, 5C, 6B, 6C, 7B, 7C, 8B and 8C), there are various  
27 changes reflected in the foregoing new exhibits from the  
28 original exhibits introduced into evidence in this hearing. The



1 major changes in the new exhibits follow:

- 2 (1) The base load forecast has been changed slightly  
3 by dropping the three years, 1952, 1953 and 1954 from  
4 the historical analysis and adding the three years,  
5 1972, 1973 and 1974. This change results in slightly  
6 higher base energy load growth rate (from 5.5% to 5.6%  
7 annually compounded) and slightly lower base peak  
8 load growth rate (from 5.4% to 5.1%). This seems to  
9 correspond well with our most recent experience.
- 10 (2) Due to the depressed copper market, the Anaconda  
11 Company has made a marked change in its plans within  
12 Montana for the near future. It has asked to be  
13 relieved of some of its contract obligations to take  
14 power from us and has recently informed us not to  
15 expect any major increases in its load for several  
16 years after 1977. Therefore, we have reduced its load  
17 in our forecasts appreciably from that previously  
18 included. The amount of reduction varies about  
19 44 MW in 1977 to about 54 MW in 1985.
- 20 (3) The delay of one year for Colstrip Units 3 and 4 is  
21 reflected on the resource side of our new exhibits.
- 22 (4) There are several minor changes in our purchase and  
23 sales contracts with other utilities in the period up  
24 to 1980 which have occurred since last summer. First  
25 we negotiated with The Washington Water Power Company  
26 during the first five years shown on the exhibits an  
27 exchange of energy essentially equal to the amount we  
28 receive from Hanford Debt Service, for an equivalent

1 amount of peak at Bonneville Power Administration rates.  
2 This exchange was made in lieu of exercising our  
3 option under the Hanford Contract to take peak  
4 rather than energy from Bonneville, as we had indicated  
5 on the old exhibits. The net effect on our resources,  
6 within 1 or 2 megawatts, is zero. Secondly, we have  
7 signed an agreement with Utah Power and Light Co. to  
8 sell them 60 megawatts of peak and energy during the  
9 period January, 1976 through August, 1977. This  
10 agreement was not contemplated last spring when the  
11 old exhibits were prepared. Both of these changes are  
12 shown on the new exhibits.

13 (5) We have adopted a new method of estimating our  
14 forced outage capacity reserve requirements for  
15 planning purposes, which is more compatible with the  
16 method used by other Northwest utilities. This is the  
17 result of negotiations and discussions carried on this  
18 past summer and fall, and results in a reduced estimate  
19 of reserve requirements. Thus, the peak reserve  
20 requirement now consists of 5% of hydro generating  
21 capacity, plus 15% of thermal generating capacity,  
22 rather than the 12% to 20% of firm peak load shown  
23 on the old exhibits.

24 (6) We have also adopted the West Group Forecast method  
25 of estimating the energy availability of large thermal  
26 generating units. This energy availability factor  
27 of 75% of capability after the first year accounts  
28 for scheduled maintenance shutdowns, forced outages,



1 partial outages or curtailments, and load shaping  
2 capabilities on our system. This factor is the  
3 result of analyzing experienced data on large units  
4 throughout the industry and is considered to be much  
5 more realistic than the availability figures  
6 previously used.

7 Applicants' Exhibit No. 5B, titled "The Montana Power  
8 Company Loads and Resources (Excluding Units 3 and 4) Annual Peak"  
9 is a table showing the company's estimated annual peak loads  
10 and resources, excluding Units 3 and 4 for the years 1975-76  
11 through 1985-86. The exhibit also shows the surplus or deficit  
12 between the loads and resources. The exhibit indicates a deficit  
13 of 9 megawatts in 1981-82 and increases each year thereafter to  
14 252 megawatts in 1985-86.

15 Applicants' Exhibit No. 5C, titled "MPCo. Estimated Peak  
16 Responsibility and Resources (Excluding Units 3 and 4)" is a bar  
17 graph showing the company's estimated peak loads and resources  
18 for the years 1975-76 through 1985-86, excluding Units 3 and 4.  
19 The exhibit is based upon Exhibit 5B, showing the same figures  
20 in graph form. As in Exhibit 5B, Exhibit 5C indicates a deficit  
21 of peak for the years 1981-82 and thereafter.

22 Applicants' Exhibit No. 6B, titled "The Montana Power  
23 Company Loads and Resources (Excluding Units 3 and 4) Average  
24 Energy" is a table showing the company's estimated loads and  
25 resources for average energy, excluding Units 3 and 4, covering  
26 the period from 1975-76 through 1985-86. The exhibit also shows  
27 the surplus or deficit between the loads and resources. A deficit  
28 of 38 megawatts of average energy is indicated in 1979-80, a

1 deficit of 26 megawatts in 1980-81 and an increasing deficit  
2 for every year thereafter, the greatest deficit being 267  
3 megawatts in 1985-86.

4 Applicants' Exhibit No. 6C, titled "MPCo. Estimated Energy  
5 Loads and Resources (Excluding Units 3 and 4)" is a bar graph  
6 showing the company's estimated average energy loads and resources  
7 for the years 1975-76 through 1985-86, excluding Units 3 and 4.  
8 The exhibit is based upon Exhibit 6B, showing the same figures  
9 in graph form. As in Exhibit 6B, Exhibit 6C indicates a deficit  
10 of average energy for the year 1979-80 and all years thereafter.

11 Applicants' Exhibit No. 7B, titled "The Montana Power  
12 Company Loads and Resources (Including Units 3 and 4) Annual Peak"  
13 is a table showing the company's estimated annual peak loads and  
14 resources, including Units 3 and 4, for the years 1975-76 through  
15 1985-86. The exhibit also shows the surplus or deficit between  
16 the loads and resources. The exhibit is similar to Exhibit 5B  
17 except that Exhibit 7B includes Units 3 and 4, whereas Exhibit 5B  
18 excludes the units. The figures are the same as those in Exhibit  
19 5B up to the year 1980-81 when Colstrip Unit 3 is scheduled to  
20 come on line. The exhibit indicates that with Units 3 and 4 on line,  
21 there will be no peak deficit on Montana Power's system for the  
22 ten-year period involved. However, extending this table to  
23 1987-88 would show a peak deficit of 186 megawatts. This is due  
24 to the expiration of contracts amounting to 150 megawatts of peak  
25 from the Bonneville Power Administration. We have been attempting  
26 to negotiate an extension of these contracts but to date have been  
27 unsuccessful.

28 Applicants' Exhibit No. 7C, titled "MPCo. Estimated Peak  
Responsibility and Resources (Including Units 3 and 4)" is a bar



1 graph showing the company's estimated peak loads and resources  
2 for the ten-year period from 1975-76 through 1985-86, including  
3 Units 3 and 4. The exhibit is based upon Exhibit 7B, showing the  
4 same figures in graph form. As in Exhibit 7B, Exhibit 7C indicates  
5 a surplus of annual peak during the ten-year period when Units  
6 3 and 4 are included. However, as noted above, although the year  
7 1987-88 is not shown on the exhibit, our forecast is for a deficit  
8 of 186 megawatts of peak for this year.

9 Applicants' Exhibit No. 8B, titled "The Montana Power  
10 Company Loads and Resources (Including Units 3 and 4) Average  
11 Energy" is a table showing the company's estimated loads and  
12 resources for average energy including Units 3 and 4 over the ten-  
13 year period from 1975-76 through 1985-86. The exhibit also  
14 shows the surplus or deficit between the loads and resources.  
15 The exhibit is similar to Exhibit 6B except that Exhibit 8B  
16 includes Units 3 and 4, whereas Exhibit 6B excludes Units 3 and 4.  
17 The figures are the same as those in Exhibit 6B up to the year  
18 1980-81 when Colstrip Unit 3 is scheduled to come on line. A  
19 deficit of 38 megawatts is forecast for the year 1979-80 by  
20 the exhibit, prior to the time that Units 3 and 4 are scheduled  
21 to come on line. If Units 3 and 4 are placed on line, the exhibit  
22 indicates there will be no deficit of average energy thereafter.  
23 Exhibit No. 8B has not been extended beyond 1985-86; however, an  
24 extension of the table to 1986-87 would show a deficit of average  
25 energy for that year amounting to 7 megawatts, even with Units  
26 3 and 4 on line.

27 Applicants' Exhibit 8C, titled "MPCo. Estimated Energy  
28 Loads and Resources (Including Units 3 and 4)" is a bar graph

1 showing the company's estimated average energy loads and resources  
2 including Units 3 and 4, for the ten-year period from 1975-76  
3 through 1985-86. The exhibit is based upon Exhibit 8B, showing  
4 the same figures in graph form. As in Exhibit 8B, Exhibit 8C  
5 indicates that there will be no deficit of average energy after  
6 Units 3 and 4 are placed on line. However, as noted above,  
7 although the year 1986-87 is not shown on the exhibit, our  
8 forecast is for a deficit of 7 megawatts of average energy for this  
9 year.

10 Based upon the figures contained in the foregoing Exhibits,  
11 in the event that Colstrip Units 3 and 4 come on line, Montana  
12 Power will use up all of the average energy available to it,  
13 including Units 3 and 4, by 1986-87 and thereafter. The same  
14 would hold true for peak by 1987-88 and thereafter.

15 Summarizing Montana Power's forecast of load increases  
16 over the ten-year period shown on the above-described exhibits  
17 (1975-76 through 1985-86), we find an increase in/<sup>total</sup>average energy  
18 of 5.6% per year compounded over the 10-year period, and an  
19 increase in/<sup>total</sup>peak of 4.8% per year compounded over the ten-year  
20 period.

21 Montana Power will be importing from outside the State  
22 approximately 15% of its peak resources and approximately 13% of  
23 its average energy resources in this current year, 1975-76. This  
24 contrasts with my earlier testimony of approximately 20% peak  
25 and 17% energy for the same year. The change is caused by the  
26 new contract arrangement referred to in this testimony earlier.

27 Applicants' Exhibit 9A, titled "Montana Power Load  
28 Projection Analysis" is a graph of the company's average energy



1 load projection analysis for the period from 1952 through 1985.  
2 The exhibit is different from Exhibit 9 previously introduced  
3 into evidence during my testimony only to the extent that it  
4 now reflects our new base load forecast using the period  
5 1955 through 1974 as brought out previously in this testimony.  
6 The bottom line on Exhibit 9A, as testified previously by me  
7 when Exhibit 9 was introduced, represents the base load upon  
8 the company's system; the base load is the total load less  
9 block loads that are not trendable, such as the Anaconda  
10 Company load. The top line on Exhibit 9A represents the total  
11 load upon the company's system and includes both the base  
12 load and the block load. Both lines are solid up through 1974  
13 and represent our projected average energy loads to 1985.  
14 As indicated by the figures in the lower right hand corner  
15 of the exhibit, the company's base load for the period from  
16 1955 through 1974 represents a growth rate in average energy  
17 of 5.6% per year compounded over the period. The figure of  
18 5.6% is presently being used in our current load forecast. This  
19 is slightly higher than the growth rate in average energy of  
20 5.5% per year over the period from 1952 through 1971, also indi-  
21 cated in the lower right hand corner of the exhibit. Other than  
22 noted herein, my testimony concerning Exhibit No. 9 previously  
23 in this hearing would apply also to the new Exhibit No. 9A.

24 Applicants' Exhibit 10A, titled "Montana Power Company  
25 firm load Comparison - Actual vs. Estimate" is a graphic comparison  
26  
27  
28



1 between the company's firm load estimates and the actual loads  
2 upon our system for the years 1966 through 1975. Peak is shown  
3 at the top of the exhibit and average energy at the bottom. The  
4 company's estimated loads are shown in red and the actual loads  
5 are shown in black. The only difference between new Exhibit 10A  
6 and Exhibit 10, previously introduced, is that Exhibit 10A brings  
7 us up to date through 1975. My previous testimony relative to  
8 Exhibit 10 would also be applicable to Exhibit No. 10A.

9 Our 1975 preliminary calendar year totals indicate that  
10 our actual total energy load was about 606 average megawatts and  
11 our base load might be as high as 488 megawatts. Thus, the  
12 recovery to long range base load growth levels seems more rapid  
13 than earlier forecasted. We have also adjusted the base load  
14 forecast in the years 1975 through 1979 to more nearly reflect  
15 the 1975 recovery experience.

16 During a severe cold spell east of the Continental Divide  
17 in Montana on January 7, 1976, the company recorded a second new  
18 all-time peak load on its system during this winter season.  
19 Earlier, on December 16, 1975, it had recorded this winter 's  
20 first new all-time peak load of 941 megawatts. The January 7th  
21 load was reported as 970 megawatts on our system, 885 megawatts of  
22 which was our own resource responsibility. Had the cold wave  
23 entered the area west of the Divide, as history indicates could  
24 easily have happened, and had Anaconda Company's new electric  
25 furnace, which is now on test, been on line and loaded as it  
26 was scheduled, we estimate conservatively that the system load  
27 would have been about 60 megawatts higher than recorded. This  
28 would have resulted in system load equal to our current forecast

1 and base load somewhat above our base load forecast.

2 Our efforts for energy conservation are continuing with  
3 the latest emphasis on adequate insulation. This includes  
4 newspaper, radio and television advertising as well as the  
5 distribution of pamphlets. In addition, our marketing personnel  
6 upon request are working with all classifications of customers  
7 to teach them methods of conserving energy.

1 MR. BELLINGHAM: I move the introduction of  
2 Applicants Exhibits as follows: 3-C, 3-D, 3-E, 4-C, 4-D,  
3 4-E, 5-B, 5-C, 6-B, 6-C, 7-B, 7-C, 8-B, 8-C, 9-A and 10-A.  
4 All of these exhibits are referred to in the written  
5 statement of testimony of Roger A. Hofacker.

6 MR. SHENKER: Mr. Davis, I would like to withhold  
7 my responses to the proffered exhibits until the con-  
8 clusion of the cross-examination of the witness. I think  
9 I may have a few objections to the statement of the wit-  
10 ness or to the exhibits as offered that I would like to,  
11 in effect, include the voir dire within the text of the  
12 cross-examination itself.

13 HEARINGS EXAMINER: Very well, I won't rule on per-  
14 mitting the exhibits until everyone is through with their  
15 cross-examination and then we'll take them one at a time,  
16 or however.

17  
18 CROSS-EXAMINATION ON WRITTEN STATEMENT OF ROGER A. HOFACKER

19 By Department of Natural Resources and Conservation

20 By Mr. Shenker:

21 Q Mr. Hofacker, the technology for the plants, Colstrip 3 & 4,  
22 is complicated technology, isn't it?

23 A Yes, sir.

24 Q And that technology, in part, is an explanation for your taking  
25 longer in the schedule than you had originally anticipated;  
26 isn't that true?

27 A No, sir.

28 Q You disagree with Mr. O'Connor on that?



1 A I don't recall the statement you're attributing to Mr. O'Connor  
2 on that.

3 Q Were you here when he testified?

4 A I was, sir.

5 Q If it was Mr. O'Connor's view that the complicated technology  
6 of the Colstrip plant was responsible in part for delays in  
7 schedule, would you agree with that?

8 A Delays in which schedule, sir?

9 Q In the completion of the Colstrip units as originally envisioned.

10 A The complexity of the engineering did not cause a delay in the  
11 original schedule.

12 Q Have you not advised the Bechtel Corporation, Mr. Hofacker,  
13 that the reduction in load forecasts for all of the five  
14 Applicants, is the reason for a slowdown that you directed  
15 Bechtel to take in engineering for the Colstrip units?

16 A I made no such statement to the Bechtel Corporation and no  
17 such letter.

18 Q Are you aware of any such statements to Bechtel?

19 A Not through my department, sir.

20 Q Are you aware of any such statement on behalf of the Montana  
21 Power Company or any of the Applicants?

22 A No, sir, I am not.

23 Q Can you conceive, Mr. Hofacker, of any possible reason for the  
24 delay of the Colstrip units 3 and 4, aside from these specific  
25 areas?

26 A The further slippage of the schedule has been caused by the  
27 timing of these hearings in order to get a permit to build it.

28 Q Let me repeat my question, Mr. Hofacker. Can you conceive of

1 any possible reason for the delay in the schedule, other than  
2 these hearings?

3 A One possibility is if we had a strike that took place during  
4 the building, it would delay the long-line schedule.

5 Q How about financing?

6 A It could, if such a problem arose.

7 Q How about reduction in load growth?

8 A That has occurred, but it has not changed the timing for these  
9 units.

10 Q It did for other units of other Applicants, though, did it not?

11 A It may have, but you would more properly question them, sir.

12 Q Don't you know?

13 A I know of changes in schedules, yes, sir.

14 Q But don't their changes in schedule have an impact on the  
15 schedules that you have to make?

16 A Yes, sir.

17 Q So you know that there are, in fact, units that have been pro-  
18 posed by others of the Applicants in this proceeding, that  
19 have been shoved back in time?

20 A And some forward in time also, as one of the exhibits will  
21 show, sir.

22 Q Is it your general view, Mr. Hofacker, that the units of the  
23 other Applicants have been accelerated or slowed down?

24 A Of those that I have a list of, there were five that were  
25 accelerated, and some twelve that have been delayed for one  
26 reason or another.

27 Q That has an impact on your plan, doesn't it?

28 A It should have, yes, sir.

1 Q Now, in addition to the possibilities that you have been able  
2 to conceive of now for me, Mr. Hofacker, of what might explain  
3 some of the delays in the Colstrip units aside from these hear-  
4 ings; if we come to the hearings themselves, would you not  
5 agree, sir, that any delays in the tendering of the information  
6 requested of you would also explain some delays in scheduling,  
7 if that occurred, of course?

8 A If it occurred, there is surely the possibility.

9 Q I take it, Mr. Hofacker, that since the time you last testified  
10 in these proceedings before the Board of Natural Resources and  
11 Conservation, that you have not changed your procedures as far  
12 as analyzing the load forecasts and resources of the other  
13 Applicants is concerned; would that be correct?

14 A That's correct.

15 Q You still don't know how they do their forecasting and  
16 resource planning; that's their job, not yours, right?

17 A Right.

18 Q Therefore, in your tendering or offering of such exhibits  
19 as Nos. 3 and 4, with their various sublettering on them, all  
20 you're doing for us is saying that those are the pieces of  
21 information that have been given to you by other Applicants  
22 and you put them together into one exhibit; right?

23 A Yes, sir.

24 Q And you couldn't vouch for the accuracy of the information that  
25 comes from the other Applicants; for that we have to ask them?

26 A Yes, sir.

27 Q You wouldn't happen to have a copy of the West Group Forecast  
28 there with you, Mr. Hofacker, do you?



1 A Which year are you talking about, last year's?

2 Q The most recent one, February 1, 1975.

3 A I have one up in my briefcase here.

4 Q We'll get one out of the exhibits, it's #118, as I recall.

5 I've handed you, Mr. Hofacker, a copy of the West Group Fore-

6 cast, which has previously been received in evidence as the

7 Applicants Exhibit #118; and the last page of that forecast is

8 entitled, 42.5 Months Critical Period Average Load, right?

9 A Yes, sir.

10 Q What does that mean?

11 A In analyzing the availability of energy from water in a water-

12 shed, you historically -- you take the historical records; and

13 the critical period is the period of time on which the lowest

14 average energy capability occurs with whatever development is

15 on the river. These 42½ months in that period at the present

16 time.

17 Q That means that's when the power potential would be the lowest?

18 A Yes, sir, for average energy.

19 Q If you go through the material that is on that last page of

20 Exhibit #118 therefore, what does it mean when we talk about

21 the years 1975 through 1986 to be on that 42.5 month critical

22 period average load?

23 A If that critical period occurred at the time of these years,

24 that would be the average energy capability at that time.

25 Q If this critical period occurred?

26 A Yes, sir.

27 Q That's energy and not peak that we're talking about?

28 A Yes, sir.

1 Q If we did all our planning based upon that critical period,  
2 then at least since 1932 we would be on the conservative side,  
3 wouldn't we?

4 A Yes, sir.

5 Q It's never been that low since, right?

6 A Not for that long a period, but there has been some individual  
7 years where it was worse than the critical for a period of  
8 time.

9 Q There has never been a 42.5 month period that that was the  
10 low in terms of water in the last 44 years?

11 A That's right, sir.

12 Q Mr. Hofacker, the first of the revised edition exhibit that  
13 I want to look at with you, are the Applicants Exhibits 3-C and  
14 4-C which supersede the Applicants Exhibits 3 and 4. Do you  
15 have both of those?

16 A I do, sir.

17 Q Do you have the old version and the new version?

18 A Yes, sir.

19 Q Let's look first at #3, which is now 3-C. In the old Exhibit 3,  
20 as I read it, for peak megawattage, you projected a surplus  
21 as to all five of the Colstrip Applicants for the years 1975  
22 through 1980 and a deficiency for the years 1980 through 1986,  
23 if you exclude the Colstrip units?

24 A Yes, sir.

25 Q Alright. Now that's been changed, I take it, in the new  
26 Exhibit 3-C, in that the years 1980-81 and 1981-1982 have moved  
27 from deficit to surplus level?

28 A Yes, sir.

1 Q And the year 1982-83 has a higher deficit than the previous  
2 did?

3 A Yes, sir.

4 Q The year 1983-1984 has seen it's deficit cut into by two-thirds?

5 A Yes, sir.

6 Q The year 1984-1985 has had its deficit cut by 40 percent?

7 A Yes, sir.

8 Q And the year 1985-1986 has seen its deficit move up by one-  
9 third?

10 A Yes, sir.

11 Q Now you can't very well say that there's a consistent pattern  
12 in terms of the deficits and surpluses moving one way in those  
13 last four years that you've now projected; right?

14 A Right, but there are deficits.

15 Q Yes, in four of those years there are deficits if you exclude  
16 the Colstrip units?

17 A Yes, sir.

18 Q And, of course, if we can see from some of the subsequent  
19 exhibits, you've done the arithmetic for us, if we add 1400  
20 megawatts in for two of the four years, the deficit disappears?

21 A Yes, sir.

22 Q Now if we look at the average energy as it appeared on Exhibit  
23 #3 as you had originally proposed it, only one year between  
24 1975 and 1986 was a surplus year; right?

25 A Yes, sir.

26 Q But now as we look at average energy on Exhibit #3-C, we have  
27 two years that are proposed as surplus years and, of course,  
28 we know now that the Colstrip schedule will not aid you for



1 any of the years prior to 1980; is that right?

2 A That's right, sir.

3 Q So we're looking at the years 1980-81 through 1985-86 on  
4 average energy and there we would find that if we added in  
5 the 1400 megawatts from Colstrip, we would have two years of  
6 deficit that would have to be surplused?

7 A You don't add in 1400 megawatts as a number though. You've  
8 got an availability factor that you have to find, you could  
9 look at an exhibit and see -- the next two exhibits include  
10 Colstrip and will give the exact numbers.

11 Q Okay. We will do that in due course. What I conclude, Mr.  
12 Hofacker, is that a third party coming down to take a look  
13 at the revised edition in the exhibits would say that the  
14 deficit situation, generally speaking, doesn't look as bad as  
15 it did back in April; isn't that a fair statement?

16 A That's right, sir.

17 Q Or looking at it differently, that the surplus situation looks  
18 better than it did back in April; isn't that right?

19 A I think, with certain exceptions, as far as energy; there's  
20 not a great deal of change in the energy requirement, but it's  
21 peaking essentially.

22 Q Well, peaking looks a lot better, energy looks a little better;  
23 that would be a fair statement, isn't it?

24 A Not in all cases.

25 Q We'll get into the specifics of it, Mr. Hofacker, but I'm  
26 talking about this third party who's wandering in to the  
27 proceedings for the first time and looks at these exhibits;  
28 don't you think it's a fair inference that even the energy

1 situation looks better than it did last April?

2 A In most cases by such a minor amount, sir, when you take the  
3 whole picture, that it's an aberration rather than a real  
4 positive improvement where it is.

5 Q Okay, so, I take it your testimony would be that the improve-  
6 ment in energy is minor and aberrational, but an improvement  
7 nevertheless?

8 A With this qualification, if you look at the energy in the last  
9 two years, 84-85 and 85-86, and that deficit has become con-  
10 siderably worse than it did in the previous exhibit.

11 Q We'll talk about the years 1985-1986 also, Mr. Hofacker. It  
12 is true, is it not, sir, as a general matter, that over the  
13 last year since April of 1975, that the utilities of the Pacific  
14 Northwest have, in fact, decreased their load projections;  
15 isn't that right?

16 A I think generally speaking, yes, sir.

17 Q And they've done that because of actual experience with load  
18 forecasting techniques and procedures and actual data as to  
19 what their growth or lack of growth has been; is that right?

20 A Yes, sir.

21 Q And you, along with the other Applicants, have participated in  
22 making those reductions in growth forecast?

23 A In peak, essentially, but very little change in energy, sir.

24 Q Have you been a participant in that process?

25 A With the other companies?

26 Q Yes, sir.

27 A No, sir.

28 Q Haven't you, Mr. Hofacker, looked at the reduction in the load

1       growths by the Pacific Northwest utilities?

2   A    I've looked at them but I didn't participate in the writing  
3       of those.

4   Q    You have listened to the conclusions that they agreed?

5   A    Listened and read the publications.

6   Q    You've reduced your own forecast for the Montana Power Company,  
7       haven't you?

8   A    In peaking we have reduced, there is reduced some, but rather  
9       minor amounts in energy; but that was primarily because of a  
10      block load, this was not base load.

11   Q    The block load that you reduced, of course, was the single  
12      largest customer that you had, that's the Anaconda Company?

13   A    Yes, sir.

14   Q    And you reduced it by 5 percent of your total load, isn't  
15      that right?

16   A    We reduced it, I think, some 40 to 50 megawatts, sir.

17   Q    If you take a thousand megawatter to capacity, it's 5 percent,  
18      isn't it?

19   A    Yes, sir.

20   Q    Now that came as no great big surprise to you, did it, Mr.  
21      Hofacker, that you were going to have to decrease the Anaconda  
22      Company's load?

23   A    We had indications of that, of course, a year ago; but as I  
24      stated in testimony last spring, a change in the copper market  
25      price could make quite a change in Anaconda Company's load  
26      again, as it has in the past.

27   Q    When did you officially make the decision to decrease your  
28      load projection as far as Anaconda was concerned?



1 A We decreased it some in the previous exhibit from 20 megawatts  
2 because at that time the Anaconda Company had not fully in-  
3 formed us, or had not made a decision, as to what their load  
4 was going to be; and later on in the summer, I think early  
5 fall, we had positive indications from them and reduced it at  
6 that time.

7 Q You had positive indications that they were going to be nega-  
8 tive in their load? They told you for sure that they were  
9 going to reduce their load?

10 A They told us the load would not be as high as previously fore-  
11 cast, yes, sir.

12 Q Now, as a result of that information, Mr. Hofacker, you, in  
13 fact, have reduced your forecast on that block load over a  
14 period of some substantial years, haven't you; it's not just  
15 a year or two that we're talking about?

16 A That's right, sir, as outlined in my written testimony.

17 Q Let's talk for a moment, sir, about your base load forecast.  
18 It has changed some as a result of having dropped the earlier  
19 years of your overall projection from the 1952-1954 period and  
20 adding on the end of the period 1972-1974?

21 A Yes, sir.

22 Q Now, that change resulted in a slightly higher base energy  
23 load growth rate and in spite the lower base peak load growth  
24 rate, right?

25 A Yes, sir.

26 Q Now, it is your opinion that that corresponded well with your  
27 most recent experience?

28 A Yes, sir.

1 Q How recent?

2 A Our best estimate right now is what 1975 produced in the way  
3 of energy load and peak, and the positive indication from the  
4 Anaconda Company.

5 Q The positive indication from the Anaconda Company that they  
6 were reducing load?

7 A On the block load -- I misquoted -- we're talking about base  
8 loads here. The Anaconda Company wasn't in this.

9 Q In block load?

10 A Yes, sir.

11 Q Now, Mr. Hofacker, the actual growth in your system from 1974  
12 to 1975 was how much?

13 A In base load energy, it was about 5.86 percent.

14 Q How was it in over-all energy?

15 A 1.1 percent, roughly, but it was the Anaconda Company furnace  
16 load that will be coming on very soon now. That would have  
17 been close to 5 percent had that been on as previously pre-  
18 dicted.

19 Q And it wasn't, was it?

20 A It was not, but it will be. It's in test run right now.

21 Q 1973 to 1974, what was your growth?

22 A I'd have to go back and look at my previous data on that; I  
23 don't know right at this moment.

24 Q The exhibit that you had before us when you last testified, Mr.  
25 Hofacker, I believe it was then called Exhibit #10, shows that  
26 between the years 1974 and 1975, you were projecting something  
27 less than 0 percent growth, isn't that right?

28 A That's right, sir.

1 Q And from 1975 to 1976, something less than 2 percent growth;  
2 you have no reason to change those projections at this point,  
3 do you?

4 A Yes, sir, because our 74-75 grew more. Now, our 75 load was  
5 actually higher.

6 Q Of course, that's not a projection, that's an actual fact.  
7 If you go to 75-76, are you prepared to change that projection  
8 at this time?

9 A Only very minor; no, sir, nothing real significant. We start  
10 from a higher base point to go on than we did before.

11 Q And you, since the last hearing, sir, have successfully  
12 negotiated with the Washington Water Power Company a contract  
13 for the purchase of power at the Bonneville Power Administration  
14 rates, isn't that right?

15 A No, sir. No we have an exchange with Washington Water Power  
16 where we take the Hanford Power at Bonneville rates and ex-  
17 change that energy to Washington Water Power for peak.

18 Q At Bonneville Power Administration rates?

19 A Yes, there is the relationship there, yes, sir.

20 Q What you've done, in effect, is to exchange with Washington  
21 Water Power Company in lieu of exercising your option under the  
22 Hanford contract?

23 A Absolutely, sir.

24 Q What are Bonneville rates as compared to other going rates?

25 A Lower.

26 Q Now you've also signed an agreement since you last testified  
27 with the Utah Power and Light Company to sell them some energy  
28 over a period of time, 1976 through 1977?



1 A Yes, sir.

2 Q You wouldn't do that, of course, if you were in a deficiency  
3 situation over that period of time, would you?

4 A No, but that sale was because of the reduction of the Anaconda  
5 Company load.

6 Q And you were able to find somebody who was willing to buy some  
7 power and you were willing to sell some power?

8 A Yes, sir.

9 Q You would expect that to continue, wouldn't you, Mr. Hofacker,  
10 if there was a reduction in Anaconda load or a reduction in any  
11 other load as a result of changes in predictions or in actu-  
12 ality; if you've got surplus, you want to sell it, isn't that  
13 right?

14 A That's just good business. May I add a point on the Bonneville  
15 rates?

16 Q Yes.

17 A The Bonneville rates were used in a way of determining how  
18 much energy for how much peak, and vice-versa. We just ex-  
19 change energy; there is no dollars involved on the Washington  
20 Water Power. We use the Bonneville peak rate versus the  
21 Bonneville energy rate and when we say so many dollars, that  
22 represents either peak or energy. It's just a ratio and not  
23 a dollar sign.

24 Q As I understand it, Mr. Hofacker, it comes out the same as the  
25 dollar, though, as a result of the exchange, doesn't it?

26 A We have paid the dollars to the Bonneville Power for the Han-  
27 ford Power, yes, sir.

28 Q Now as I understand it, Mr. Hofacker, you have also done a

1 different job of determining your reserve capacity from what  
2 you were doing when last you had testified here?

3 A Yes, sir, as I explained in my testimony.

4 Q If you had nothing but hydro capacity in your reserve require-  
5 ment as you would project it, it would be 5 percent?

6 A Yes, sir.

7 Q Whenever you add thermal capacity, then your reserve, propor-  
8 tionately, must be 15 percent for your thermal capacity; right?

9 A That's what we're using at the present time, sir.

10 Q What's your experience with the thermal plants today in terms  
11 of what your forced outages have been on a percentage basis;  
12 that is, Montana Power Company experience?

13 A I don't have those figures in my mind readily, sir.

14 Q You've also adopted the West Group Forecast method of excavating  
15 energy available with a load factor now at 75 percent, is that  
16 right?

17 A Yes, sir, and this compares to what was equivalent of about  
18 82 percent before when you took off reserves.

19 Q I think the round figure that you used generally when you  
20 testified last time was 85 percent; in any event it is now  
21 down to 75 percent?

22 A Yes, sir.

23 Q Of course on your books, therefore, if you project load growth  
24 and make your forecasts, you would be showing a unit that you  
25 previously had an 85 percent load factor now at a 75 percent  
26 load factor; right?

27 A Yes, sir.

28 Q Just in round numbers, if you had a unit of 1,000 megawatts,

1 for example, you would show that at 850 megawatts with the  
2 old load factor; you'd show that at 750 megawatts with the new  
3 load factor?

4 A Right, because experience has shown that's all you can expect  
5 out of it at the present time.

6 Q Nothing has changed except the evaluation that you have made  
7 on the projection of somebody's experience of how much you think  
8 you can get out of a unit, right?

9 A We were using it on the basis of what we thought Corette had  
10 provided for us, and that's a considerably smaller plant. But  
11 at the present time, industry-wise, 75 percent is about all  
12 you had better plan on.

13 Q What about hydro; what did you plan on for that?

14 A As far as availability, it would be extremely high.

15 Q Over 95 percent?

16 A Well, we're confusing a few things here; if we're talking about  
17 net output versus availability of the unit. Now availability  
18 of the unit is what I was talking to -- talking about. Now,  
19 availability of hydro is very high. The net output of the  
20 hydro, or the load factor in the plant, depends on what's  
21 installed in it. There is only so much energy through any  
22 hydro plant; and however you take it out, whether you put in  
23 a whole lot of peaking or whether you have it just flat makes  
24 a lot of difference on that load factor.

25 Q You will agree with me, will you not, Mr. Hofacker, that it  
26 wastes money, so to speak, to operate a plant at less than its  
27 designed load factor?

28 A And we try not to.



1 Q If you do operate the plant at less than its designed load  
2 factor, that's wasting money; you don't want to do that, right?

3 A We'd like to have 100 percent availability, if we could get it.

4 Q Now, move to Exhibit 5, if you would, Mr. Hofacker. That is  
5 New Exhibit 5-B, I take it?

6 A Yes, sir.

7 (Mr. Shenker posts to drawing board.)

8 Q When last you testified, Mr. Hofacker, we were able to trace  
9 some of the development of your load forecasts from 1970  
10 through 1974 or 1975. I'd like to round out the picture with  
11 some of the things we weren't able to put on the prepared  
12 analysis. In 1975, Mr. Hofacker, your Exhibit #5-C -- excuse  
13 me, 5-B -- now shows a firm peak load of 930 megawatts; right?

14 A Yes, sir.

15 Q That's down from 967 megawatts on your last Exhibit #5. Your  
16 Exhibit #5-B, I take it, was prepared some time this month or  
17 last month?

18 A Yes, in the last few weeks.

19 Q And Exhibit #5 was prepared last year in 1975?

20 A Yes, sir.

21 Q And in 1974 you filed what was called a long-range plan with  
22 the Department of Natural Resources, and at that time you had  
23 1,037 megawatts for 1975-76; I think you went over that in your  
24 testimony last time?

25 A Yes, sir.

26 Q In the year before that, your long-range plan filed with the  
27 Department of Natural Resources and Conservation showed 993  
28 megawatts. Now the only other figure that we had not looked

1 at last time was in 1964 when the Bechtel Corporation prepared  
2 a system study for you, marked as Exhibit 119 of the Applicants,  
3 and they had 1,136 megawatts on their list. Do you recall  
4 that?

5 A Yes, sir.

6 Q I am going to fill in the figures for each of these years  
7 1975 through 1979 under each of the five columns and then I  
8 have some questions to ask you. Just check me to make sure  
9 I'm writing in the right figures.

10 (Pause while Mr. Shenker posts to drawing board.)

11 Q Now, Mr. Hofacker, I've put on the figures off of each of the  
12 years 1975 through 1979 for each of those five documents; your  
13 current exhibit, the exhibits of last year, the year before  
14 that your long-range plan, the year before that your long-  
15 range plan; and nine years earlier, the Bechtel power study.  
16 The figures are correct, are they not?

17 MR. BELLINGHAM: Mr. Hofacker, do you have the long-  
18 range plans?

19 WITNESS: I do not have the long-range plans. I  
20 have the 5-B and 5, but I'd have to refer to -- but they  
21 look in the right area. I do not have the specific num-  
22 bers.

23 MR. SHENKER: We can check them out later.

24 Q The question I want to put to you, Mr. Hofacker, is if we look  
25 at the year 1975, with the exception of what was a rather  
26 marked downward projection on load forecast between 1964 and  
27 1973, we have a gradual reduction in the forecasted load for  
28 the year 1975 as we move closer and closer to that year; isn't

1       that true?

2   A   Yes, sir.  These are peak loads that we're talking about,  
3       aren't they?

4   A   Yes, sir.  Now, the same is true for 1976 and 1977 and 1978  
5       and 1979, isn't that also true?

6   A   That's right, sir, essentially because of the Anaconda Company's  
7       operations.

8   Q   But we can't go beyond 1979 if we are going to include the  
9       Bechtel Analysis because they only went 15 years beyond the  
10      range of the study?

11  A   Yes, sir.

12  Q   But the Anaconda impact upon your load is always going to be a  
13      rather substantial one, given the present size of your load;  
14      isn't it?

15  A   It's getting less all the time, as I testified last spring.  
16      It is something less than -- it's about 15 percent now and at  
17      one time it was like 30 percent or better.

18  Q   Of course, if you knock 50 megawatts off that load, it helps  
19      to reduce its percentage of your total load too, doesn't it?

20  A   Certainly.

21               MR. SHENKER:  Mr. Davis, we would like to mark this  
22               for illustrative purposes as an exhibit, and as in the  
23               past, we will have a reduced 8½ x 11 size.

24               WITNESS:  May we make it subject to our checking  
25               those numbers for the other years?  And this is total load  
26               we're talking about, too.

27               HEARINGS EXAMINER:  Could we mark that DNR Exhibit  
28               #14?  Do you have any objections to the offer, Mr.



1 Bellingham?

2 MR. BELLINGHAM: We have no objections subject to  
3 Mr. Hofacker checking the long-range plan in order to  
4 make certain that the figures displayed on Exhibit 14  
5 of DNR are indeed correct.

6 HEARINGS EXAMINER: Very well. The exhibit will be  
7 admitted for illustrative purposes and subject to redirect  
8 on any inaccuracies in that forecast.

9 Q Let's look at Exhibit 6 now, Mr. Hofacker. That's been super-  
10 seded by your Exhibit #6-B. Now we've left peak and we're in  
11 energy; that's the number of this particular exhibit, right?

12 A Yes, sir.

13 Q And previously your Exhibit #6 had projected a deficit situa-  
14 tion for the year 1975-76, which you now believe will be a  
15 surplus?

16 A Yes, sir.

17 Q For the years 1979 through 1986, you project a deficit all the  
18 way through without Colstrip?

19 A Yes, sir.

20 Q Since you have 30 percent of the load coming from Colstrip if  
21 you get the Colstrip units 3 and 4, you would eradicate your  
22 deficit for each of those years too?

23 A Yes, sir.

24 Q In fact, you would have surpluses for each of those years,  
25 wouldn't you?

26 A Yes, sir.

27 Q Now, the term "median water adder" you explained to us pre-  
28 viously, Mr. Hofacker; and the Byrd Plant you also explained to

1 us previously when you had testified. What I don't under-  
2 stand is why you have knocked four megawatts off of Byrd for  
3 each of the years 1975 through 1986 when you compare the old  
4 Exhibit 6 with the new Exhibit 6-B?

5 A I didn't pick up that change.

6 Q Do you have those two exhibits before you?

7 A I do not have the 6. I thought I had it here, but I do not  
8 have it. I will have to find out why that was dropped off;  
9 I don't know.

10 Q Now, if I understand what you previously told us, Mr. Hofacker,  
11 the median water adder means that half the time that much more  
12 megawattage would have been available; right?

13 A I'm sorry, I wasn't paying attention. Would you restate that?  
14 I was thinking of this number here.

15 Q For example, 1975-76 you have 48 megawatts for median water  
16 adder?

17 A Yes, sir.

18 Q That means, based upon historic past experiences, the chances  
19 are 50-50, or at least as good as 50 percent; that you would  
20 have that much more megawattage available to you?

21 A That's what the median means, 50-50; yes, sir.

22 Q And the Byrd figure refers to a megawattage that is available  
23 if you decide to run the Byrd Plant as a result of the avail-  
24 ability of fuel?

25 A Yes, sir. Byrd is a part of our reserve, like a gas turbine  
26 would be.

27 Q Now it is true, is it not, Mr. Hofacker, as you look at the  
28 new Exhibit 6-B, that for every year through 1982, if you add

1 the median water adder and Byrd, you would have no deficits  
2 at all on energy?

3 A Yes, sir.

4 Q And in the year 1982-83, if you add Byrd and median water, you  
5 would have a ten megawatt deficit?

6 A Yes, sir.

7 Q And in 1983-84, you would have a deficit of 56 megawatts?

8 A Yes, sir.

9 Q 1984-85, your deficit would be 105 megawatts?

10 A Yes, sir.

11 Q And in 1985-86, the last year for which you have done any fore-  
12 casting, your deficit would be 156 megawatts?

13 A Yes, sir. One correction; that's not the last year we've done  
14 any forecasting, but that's the last year on this exhibit here.

15 Q Okay. Have you yet, Mr. Hofacker, caused negotiations to take  
16 place for the sale of surplus power should you have the avail-  
17 ability of Colstrip units 3 and 4?

18 A No, sir.

19 Q You're obviously going to have surplus power in each of the  
20 years that you now forecast on these exhibits?

21 A In the early years, yes, sir.

22 Q Well, if you take the year 1985-1986, which is the last year  
23 that you have forecasted on these exhibits, you would have  
24 surplus power even in that year, wouldn't you?

25 A Yes, sir.

26 Q Now you tell us in your statement, Mr. Hofacker, that if you  
27 extend your tables to years that don't show on the tables, that  
28 we would have some different picture. Do you have that in



1 writing someplace that it has been, in fact, extended beyond  
2 '86?

3 A Well, I've noted it on my exhibit, yes, sir; and '86-87 -- well,  
4 I did it on Exhibit 8-B, which includes units 3 and 4. Average  
5 energy, 86-87, would indicate that we're right on the border-  
6 line of negative 7; so we've used up our surpluses by that time  
7 in energy. In peak, I believe, it's 87-88 we become deficit  
8 by about 186 megawatts; and that is also in my direct testi-  
9 mony.

10 Q I saw that in the testimony; I didn't see it in any of the  
11 exhibits. Is there some written document that you have that  
12 is the basis for that testimony?

13 A No, just a projection of our loads and resources as you see on  
14 the exhibit; yes, sir.

15 Q That would be the projection, then, that tells us that after  
16 you move through the close to zero percent load growth for  
17 last year and 2 percent for this year and 3 percent for next  
18 year, you still project having the largest increase you've  
19 ever had in your load growth over the next 3 years; right?

20 A Yes, sir.

21 Q And that's the only way that you're able to bring that dotted  
22 line up from where it is on your graph in order to catch up  
23 with the solid line of the past; right?

24 A Yes, sir; but as stated in my direct testimony, we've been in  
25 a recession and it appears we're recovering somewhat faster  
26 than we thought a year ago. That's just getting back to our  
27 economy as it appeared before this recession set in.

28 Q We'll get to some of those forecasting techniques, Mr. Hofacker.

1 When Bechtel did its study for you on system load in 1964, at  
2 that time, the judgment made for you by Bechtel was that the  
3 cheapest way for you to go in power usage was to purchase about  
4 30 percent of your power requirements; right?

5 A As I said several times in the previous testimony, only for  
6 a period of time until we could get new utilities loaded up  
7 to a reasonable load factor.

8 Q Well, you now project, I take it, -- you now project 15 per-  
9 cent as the amount of power that you want to purchase; is that  
10 right?

11 A I didn't check it, but that sounds in the area; yes, sir.

12 Q Now, that's down a little bit from what you were talking about  
13 last year when you testified? (No response.) You were talking  
14 in the neighborhood of 20 percent last year?

15 A Oh, yes. Yes, sir.

16 Q Why did you do that?

17 A We'd like to have all our own generation rather than purchase  
18 any generation -- any outside, if you can do it.

19 Q It can't be on the basis of pride; it must be on the basis of  
20 economics, is it not?

21 A Yes, sir.

22 Q Do you have, Mr. Hofacker, available to you an economic study  
23 done since the last time you testified, to show why you should  
24 import less power into Montana?

25 A No, sir; but the changes are due to the contracts expiring or  
26 new ones that we've negotiated. That's how that percentage is  
27 arrived at.

28 Q That happens all the time, though?

1 A It's not completely our choice.

2 Q That happens all the time, that you're constantly going through  
3 negotiations and changes of contract?

4 A Yes, I think that it's an ongoing activity.

5 Q We've talked a little bit this morning, Mr. Hofacker, on the  
6 base load and the growth that you have had if you take the  
7 years 1955 through 1974, as compared to the earlier discussion  
8 of 1952 through 1971; depending upon where you draw your time  
9 lines, you will have different percentage growth or increase  
10 in your load, won't you?

11 A Surely.

12 Q For example, the years 1963 to 1973 showed a growth of 4.3  
13 percent; isn't that right?

14 A I believe that was what we had in our previous testimony.

15 Q And 1968 to 1973 was 3.9 percent?

16 A That figure sounds right, sir.

17 Q And 1970 to 1973 would be 1.1 percent?

18 A This is total load again; yes, sir.

19 Q Right. Were we in a recession in 1970?

20 A We lost Anaconda Company load. For instance, in that period of  
21 time, I believe, from 70 megawatts of the load on the zinc  
22 plant up at Anaconda -- or at Great Falls, I should say. We  
23 lost that and we also lost part of the Indian Irrigation Service  
24 and some of the REA loads. This is the reason that we used  
25 the base load to do our projection and not total loads. The  
26 base load had been fairly consistent, as you can see from that  
27 exhibit, or the exhibits we've presented.

28 Q What I'm trying to get a handle on, Mr. Hofacker, is what makes



1 a recession and what doesn't make a recession. For the  
2 Montana Power Company, if the Anaconda Company cuts back on  
3 load, that's a recession; isn't it?

4 A Yes, sir. We've taken off that load and started from a new  
5 base in our projections.

6 Q Now, I take your present projection to be that you will make up  
7 for any reduction in load growth over the past years of  
8 recession so that by the time 1980 dawns, you will be growing  
9 apace as if there had never been a recession before you?

10 A That's our best judgment, sir.

11 Q Have you added an economist to the staff of the Montana Power  
12 Company engineering department?

13 A Not as yet, sir.

14 Q I notice, Mr. Hofacker, toward the end of your statement, you  
15 comment on your most recent experiences, that is, this month,  
16 January 1976, where you had a very cold spell east of the  
17 divide and you recorded a second new all-time peak load on your  
18 system during the winter season. There then follows a "but  
19 what if" series of suggestions; it's always true, isn't it,  
20 Mr. Hofacker, that if it had more load on your lines, if you  
21 had more demands from customers, you would have been called  
22 upon to deliver more energy.

23 A The "what ifs" -- not necessarily, sir. The "what ifs" are our  
24 attempt to normalize. Again, going back to this median that  
25 you were talking about; that's what normally occurs, if it's  
26 normal, we make no adjustments. If it was something less than  
27 normal or above normal, then we try to adjust to see what.  
28 But it's normalizing is what we've done.

1 Q Let's talk about the normality of conservation. You don't  
2 have much experience with that, do you?

3 A We've had some; and as you can see, our projected peak is  
4 somewhat less than I would attribute this through conservation.

5 Q What diminution in per capita consumption of energy do you  
6 expect as a result of conservation?

7 A I just don't know, sir.

8 Q Did you try to find out?

9 A We did, and we couldn't get a correlation on our systems.

10 Q Your marketing personnel these days are working with customers  
11 to teach them how to conserve energy, right?

12 A They certainly are, sir.

13 Q That means to sell less energy to them?

14 A Yes, sir.

15 Q Do your marketing personnel have some projections of how much  
16 energy they can conserve?

17 A Only as exhibited by the information received them for the  
18 next two or three years that were incorporated in the exhibits;  
19 they haven't gone beyond that point, to my knowledge.

20 Q Mr. Hofacker, the last time you were here to testify, we had  
21 some discussions on the critical years that were involved in  
22 the Colstrip proceedings; in which my memory is, the years we  
23 were talking about were 1979 through 1981. Those were years  
24 in which, in your view, you couldn't bring other loads into  
25 service; that is, you couldn't bring new resources available  
26 to meet loads in time, and, no doubt, there was going to be  
27 deficits during that period of time; do you remember that?

28 A Yes, sir.

1 Q Well, as a matter of fact, the Colstrip units 3 and 4 were  
2 designed to meet the deficit in the entire Pacific Northwest,  
3 weren't they?

4 A Yes, sir, it was a joint deficit.

5 Q And when the decision was made by the Colstrip Applicants to  
6 proceed with Colstrip units 3 and 4, you knew, even then, in  
7 1971 and 1972, that being able to bring those plants on line  
8 in time to meet the then projected needs of your fellow  
9 applicants was a remote possibility?

10 A I don't think I would call it "remote," sir, but a tenuous one;  
11 yes, sir.

12 Q John Lahr, you know, do you not, is a lobbyist for the Montana  
13 Power Company?

14 A Yes, sir.

15 Q On October 27th, 1972, before the Board of Natural Resources,  
16 he used the word "remote." Your word is "tenuous"; they're  
17 close words, aren't they?

18 A Yes, sir, I believe so.

19 Q Now, Mr. Hofacker, when we had some discussion with you re-  
20 garding the interruption of interruptable contracts, it was  
21 your view, was it not, sir, that you would do public injury,  
22 if it was necessary, to interrupt those interruptable contracts  
23 on peak load?

24 A I don't believe I said that, sir.

25 Q I beg your pardon?

26 A I don't recall saying that we would do public injury to inter-  
27 rupt those interruptable loads over the peak; I don't recall  
28 making that statement anyway.



1 Q I've asked Mr. MacIntyre to get that volume of your testimony  
2 to refresh your recollection on that, sir. But you will agree  
3 with me, will you not, Mr. Hofacker, that the fact of the  
4 matter is that over the last several years, you have not  
5 interrupted anybody's interruptable load?

6 A Until this last summer, sir.

7 Q The summer of 1975?

8 A Yes, sir.

9 Q Mr. Bellingham was asking you about the West Group Forecast --  
10 this is on page 1871, Volume 11 of the transcript -- he asked  
11 you to explain what it might mean if the public were injured  
12 by having too few resources available.

13 MR. BELLINGHAM: Excuse me. May I get that volume  
14 and page for Mr. Hofacker's review.

15 MR. SHENKER: Why certainly, Mr. Bellingham.

16 MR. BELLINGHAM: Volume 11, page 1871.

17 (Mr. Bellingham gives it to the witness.)

18 A I have the page 1871, and what particular portion of that were you  
19 alluding to at that time?

20 Q Just a moment ago, sir, I was asking you about injury done to  
21 the public as a result of having too few resources available;  
22 you couldn't remember that testimony. This is the reference  
23 that I had in mind on page 1871 of the transcript, down on  
24 line 20. That's a reference to Mr. Bellingham having --

25 MR. BELLINGHAM: Are you looking at the right page?

26 A I'm on the West Group Forecast. It says, "The continuing of  
27 the West Group Forecast"; is that the line?

28 Q Yes, Mr. Bellingham asks you to explain; right?

1 A Yes, sir.

2 Q That's the reference to having the public injured, and that's  
3 as a result of having too few resources available?

4 A Yes, sir.

5 Q Now, "the public injured by having too few resources available,"  
6 wouldn't that mean that you weren't able to meet a load that  
7 you'd been committed to?

8 A Yes, sir, also how long they were denied that power. If it  
9 was a short time over peak, it may be very little injury; but  
10 if it were extended on for many months, and it was, as I  
11 stated in there with the Anaconda Aluminum Company -- they're  
12 not our customer, but that was an example I used -- that was  
13 for a long period of time and many people were out of work for  
14 that period of time.

15 Q Yes, but that wasn't your direct problem, was it?

16 A That was not our --

17 Q Isn't Don Gregg the fellow who's been responsible for super-  
18 vising those contracts over the last several years?

19 A Yes, sir.

20 Q And he'd know, wouldn't he, whether you, in fact, have had any  
21 reductions in your projected contractual commitments where you've  
22 had to cancel any contract or cease any negotiations for con-  
23 tracts with major industrial consumers in this state?

24 A Yes, sir. We have not, however, been able to respond to  
25 requests for additional power that I covered in my testimony  
26 last spring.

27 Q It is a fact, is it not, Mr. Hofacker, that there has been no  
28 cessation of negotiations for contracts with major industrial

1 consumers in this state as a result of whatever you projected  
2 your resources to be?

3 A I think that is difficult to answer with a yes or no.

4 Q Do your best.

5 A The reason, as I said, we've had contracts and we told them we  
6 could not negotiate with them for additional power until we  
7 knew whether 3 and 4 was going to be a realty. Now that enters  
8 into this picture somewhere or other.

9 Q Yes, we went over that correspondence when last you testified;  
10 the letters that were written to Mr. O'Connor at his request?

11 A Yes, sir.

12 Q Do you remember the PGE study that was called the grit study?

13 A I know of it but I do not have the study.

14 Q You've seen it before?

15 A I've seen one sheet in that study, sir, is all.

16 Q Have you seen the one that shows the alternative study by the  
17 Portland General Electric Company, their participation in  
18 Colstrip as the most extensive?

19 A No, sir.

20 Q Have you seen the alternative projection by PGE past the year  
21 1981?

22 A No, sir.

23 Q Is it still true, Mr. Hofacker, that you do your forecasting  
24 in essentially the same way, with the same tools and philosophy  
25 as you did when you were testifying last year?

26 A Yes, sir.

27 Q So I take it that it would still be the case that you do not  
28 have a price elasticity factor that you can plug into your



1 forecasting formula?

2 A No hard number; only judgment, as I said before.

3 Q And is it still true that the man who is the principal operator  
4 of the forecasting technique, who has what you call the  
5 mechanical responsibility for getting it done, is Rob Stuart?

6 A Yes, sir.

7 Q I take it that it is still the case, Mr. Hofacker, that you  
8 have made no complete load forecasts starting from scratch and  
9 abandoning your old load forecasts since 1972?

10 A This new one reflects the new load forecast as of the first  
11 of this year, sir.

12 Q Well, you've had several new ones since 1972; but, when you  
13 testified last April, you told us, sir, that you had no new  
14 load forecasts which started from scratch since the one that  
15 you had adopted in 1972. You've brought them all up to date  
16 since then?

17 A Yes, sir; it's the same procedure.

18 Q In any case, nothing new has been done since 1972, from scratch?

19 A I don't know whether you can say that or not just that way; it  
20 would sound like we were just sitting and doing nothing. We  
21 have been cognizant of all these factors and making judgment  
22 of all these factors as they present themselves at the time  
23 we're looking ahead. But as far as the mechanics, there has  
24 been no change.

25 Q I didn't wish to imply that you were sitting and doing nothing;  
26 certainly not you, sir, you achieved a new title and status and  
27 position since last you were here. You're now the vice-  
28 president in charge of all engineering for the Montana Power

1 Company, are you not?

2 A Yes, and a couple other responsibilities too.

3 Q Does Rob Stuart still use an exponential growth projection in

4 trending base load?

5 A Yes, sir.

6 Q What's the exponent that he uses now?

7 A The exponent must be, I believe, the growth rate that we allude

8 to in my testimony here, the 5 -- it's back here, I want to be

9 sure I have the right number -- it's 5.1, I believe, for base

10 peak and 5.6 compounding for the base energy.

11 Q And your actual peak and your actual energy, of course, would

12 be that much lower by your Anaconda block load addition?

13 A Yes, sir.

14 Q Does Rob Stuart use a standard error of estimate yet?

15 A No, sir.

16 Q Has your department yet looked into the development of electri-

17 cal price ranges over the projected period of the use of

18 Colstrip units 3 and 4?

19 A We've looked at the price of the power out of 3 and 4; yes, sir.

20 Q Over what period of time?

21 A Oh, I think well into the future as involved in some of our

22 economic studies.

23 Q How far?

24 A Thirty-seven years; I believe the estimated life of the unit or

25 the number that's used for the life of the steam unit.

26 Q Do you yet build a variable for population growth into your

27 computer program on load forecasting?

28 A No, sir; not as such, not a hard number.

1 Q You told me you don't use price elasticity as a hard number in  
2 your formula or your computer forecasts; do you use cross-  
3 elasticity of demand?

4 A Only as a judgment; yes, sir. We look at alternative costs.

5 Q But not as a formula that's plugged into the computerized  
6 projection?

7 A No, sir.

8 Q Have you yet done any specific studies on the cross-elasticity  
9 of competitive resources? You make judgments, I understand,  
10 but --

11 A Well, we calculate what it looks like the costs are going to  
12 be and see how that compares to what we estimate our cost of  
13 electric is going to be. There's no factor to put into a  
14 computer as such.

15 Q So the computer program has not been changed since 1972?

16 A No, sir -- or should I say yes, sir. It has not been changed.

17 Q When last you testified, Mr. Hofacker, we were looking some at  
18 the possibilities of shipping power by transmission line east  
19 from Montana, and you were telling me that you needed a 3400  
20 megawatt capacity in order to do that; is that right, do you  
21 remember that?

22 A Yes, sir; if we use AC lines.

23 Q Why can't you just ship 1400 megawatts east?

24 A Because to get the systems -- to keep the systems tied together  
25 with the large group of generation west of the ties and a much  
26 larger group east of the ties; just the synchronizing power to  
27 hold those two together can amount to 2000 megawatts.

28 Q What size lines would be required for the 3400 megawatts?



1 A I believe you're going back over previous testimony that I  
2 gave and I believe -- I have to think a minute -- I think two  
3 765's, I believe.

4 Q Do you know how much load each line would carry safely in  
5 normal operation?

6 A That would depend somewhat on the design parameters of the  
7 line. Let's see. It's something around 3000 megawatts or  
8 better. Now those are real rough numbers, but I think 765  
9 is capable of that if you have the proper type of design in it.

10 Q Will this additional capacity for synchronization be operated  
11 in that amount of megawattage transmitted in normal operation?

12 A Yes, sir. It could occur at any time. If you've got these  
13 two large bodies of energy operating and just the slightest  
14 variation, you can get this power moving back and forth, and  
15 that's the reason we cannot keep the east and west tied to-  
16 gether under the present transmission.

17 Q And that's a reason that DC would make more sense than going  
18 into AC if you were going east and west; is that right?

19 A From an operational standpoint, yes, sir; from a cost stand-  
20 point, that's another matter.

21 Q Okay. Now we talked a little bit also, Mr. Hofacker, of studies  
22 that you had made and studies that you had commissioned, com-  
23 paring the shipment of power by transmission line with the  
24 shipment of coal by rail for the generation of power elsewhere.  
25 Now, of course, the only outside study that you've caused to  
26 be done for the Montana Power Company or for the Applicants in  
27 this proceeding, is by Bob Pettibone of Gibson Hill; is that  
28 right?

1 A Yes, sir.

2 Q And that's not as an economic analysis by the Montana Power  
3 Company; that was for preparation of this hearing, wasn't it?

4 A Yes, sir.

5 Q But you did your own study as well, did you not?

6 A Yes, sir, as presented last spring.

7 Q Since that time, Mr. Hofacker, have you had occasion to make  
8 any revisions in the projections that you made in that study?

9 A No, sir. We looked at it at the -- the output of the study had  
10 changed and it appeared to us that it would not because com-  
11 paring the first study that we did that anticipated the  
12 plants coming on in 1978-79, then with the revision of that  
13 when we had 79-80; the relationship changed very little. Maybe  
14 the hard numbers are different but they move together pretty  
15 well.

16 Q You've made no revisions now that you're looking at 1980-81  
17 instead of 1979-1980?

18 A No, sir, we have not.

19 Q If in your judgment, Mr. Hofacker, the cost of transporting  
20 coal by rail for generation of power elsewhere was as cheap or  
21 cheaper than the cost of transporting the energy by any alter-  
22 native methods, would you have any objections to going by rail?

23 A For our own required generation, I prefer to have the generation  
24 within our system, if I had the alternative, rather than moving  
25 it and use the coal in our area rather than having exposure  
26 to being shipped to some other place.

27 Q Even if the cost were the same, you'd rather do your own  
28 generating?

1 A If the costs were the same, I would think your mine site  
2 generation would be preferable, in my book.

3 Q Why is that, sir?

4 A Because whatever transmission I would have to build would be  
5 my responsibility and not subject to the vagaries of a third  
6 party for moving that energy.

7 Q Let's assume, Mr. Hofacker, for the purposes of our discussion  
8 right now, that you didn't have the large deposits of coal  
9 that exist around the Colstrip area; and, nevertheless, the  
10 Montana Power Company, of course, projects need for energy and  
11 peak capacity in the future. If there were a deposit of coal  
12 in, let us say, Idaho or Eastern Washington, for that matter,  
13 and a generating station of sufficient size was built at that  
14 site; would you need to build additional transmission lines in  
15 order to take the power that you need as you project it into  
16 1986?

17 A I believe we would not; the location would have some critical  
18 aspect here, but I believe we would not through that period.

19 Q Assuming that you, for example, got through Hot Springs con-  
20 ductor areas so that your substations were lined up reasonably  
21 well, your existing grid should do the job to service your  
22 load over the next ten years?

23 A I'm not -- thinking further, I think we would possibly need  
24 some transmission through -- within our system. I was thinking  
25 initially of just to the borders of our system. I think we  
26 would need something within our system to take care of our  
27 loads.

28 Q Between now and 1986?



1 A I'm not positive of that. I'd have to check with my people  
2 on that, but I believe we have some transmission in our long-  
3 range forecasting; but I don't believe there would be any  
4 major insolation, but I need to check that to verify it.

5 Q We know, for example, that the Colstrip to Broadview line, as  
6 proposed ultimately, would not be necessary if you did not  
7 have units beyond Colstrip 1 and 2; isn't that right? You  
8 don't need a 500 KV line without Colstrip units 3 and 4?

9 A It's not a 500 KV line now, sir. It has capabilities of being  
10 transformed to that.

11 Q You are going to have a conversion made if you have Colstrip  
12 3 and 4?

13 A We have the capability of that, yes, sir; but at the present  
14 time it's two 230 KV lines on a single structure.

15 Q And you don't need more than that if you don't have more than  
16 Colstrip 1 and 2?

17 A Yes, at Colstrip, yes. If we were to add another unit at  
18 Colstrip, another 350 would require another line.

19 Q Isn't it a general rule of thumb in the utility industry, Mr.  
20 Hofacker, that it's better to have a shorter distance of trans-  
21 mitting the power from the generating station to the load  
22 center?

23 A I would think so; if you could build them right at the load  
24 site, it would be ideal, from an operations standpoint. From  
25 an economics, it may be another picture.

26 Q Well, from the operational standpoint, if it is better to build  
27 the delivery of energy closer to the load center, and if, as  
28 I asked you to assume, from an economic standpoint, it's just

1 as cheap to transport the coal by rail, then what is your  
2 objection to doing it that way?

3 A Because of the injection of the third party with freight rates  
4 and the operation of that railroad.

5 Q Okay. Are you familiar, Mr. Hofacker, with the Montana Energy  
6 Policy Study of the Environmental Quality Council in its final  
7 report, revised edition, June 1, 1975?

8 A I have seen the study, sir. I wouldn't say I was fully familiar  
9 with it, but I've seen it.

10 Q Do you agree with the conclusion of that study, that load  
11 center conversion of coal to electricity costs less to the  
12 consumer and uses less energy for electrical production than  
13 in-state conversion?

14 A I could agree only if I knew the parameters, because it might  
15 not necessarily always be true; as it is not necessarily true  
16 in our case.

17 Q Why isn't it true in your case?

18 A We may have existing facilities that are not being fully used  
19 that you can utilize some way or another. The cost of building  
20 at the load site may be much more or may be at considerable  
21 variance with the cost of building it at the mine site. These  
22 are the types of factors that -- you'd have to look at the  
23 factors; you can't make a blanket statement and say positively  
24 that's true.

25 Q Do you agree with the finding of that study that as much as  
26 possible, Montana coal should be exported for electrical  
27 generation?

28 A I believe we should utilize the coal some way. Now whether

1       it's just for exporting for electrical generation, that's --  
2       I don't know whether it should be used for solely just that  
3       alone.

4   Q   Do you agree with the findings of the study that coal con-  
5       version plants in Montana should be allowed only when the end  
6       product will be used primarily to meet Montana energy demands?

7   A   No, sir, or we would not be applying for 3 and 4. I believe  
8       our job is to -- has been to provide the energy at the lowest  
9       cost to our customers, and with whatever reliability we can  
10      build into this.

11   Q   Then you have some disagreements with the study. Let me ask  
12      you, sir, if you agree with the conclusion of the study that  
13      if you do not implement the conclusions that I just asked you  
14      about, that you will not have a comprehensive energy policy  
15      in this state?

16   A   I don't fully understand the import of that statement.

17   Q   I just asked you about a number of policies, judgments, con-  
18       clusions; one of which was, for example, that coal conversion  
19       plants in Montana should be used only when the end product  
20       would be used primarily to meet Montana energy demands; another  
21       of which was that load center conversion of coal to electricity  
22       costs less to the consumer and uses less energy per electrical  
23       production than does in-state conversion; another of which was  
24       that in-state conversion of coal should be used only for signi-  
25       ficant in-state energy demands.

26               MR. BELLINGHAM: May I ask what pages those appear?

27               MR. SHENKER: Page 49, in lower case Roman numerals.

28   Q   Now, with those policy conclusions in mind, Mr. Hofacker, do



1       you agree that without implementing those judgments, policies,  
2       conclusions, that Montana would not be moving toward having a  
3       comprehensive energy policy?

4   A    I don't agree with the points they made, the positive state-  
5       ments. I believe that all should be studied, all aspects, and  
6       then you can arrive at an energy policy for the state of  
7       Montana. But my personal opinion is it's a very biased report;  
8       that's my personal opinion of this report.

9   Q    Let me ask you this, sir, are you in favor of a comprehensive  
10       energy policy for the state of Montana?

11  A    Yes, sir.

12  Q    Do you still do your load forecasting on a monthly basis?

13  A    Yes, sir.

14  Q    You would agree, would you not, Mr. Hofacker, that the use of  
15       hydrocapacity would minimize transportation costs -- excuse me,  
16       transmission costs?

17  A    No, sir, because many hydro units are remote. I mean, if  
18       you're alluding to potential sites, are remote from load  
19       centers so you have to build transmission.

20  Q    As to your existing hydro sites, as to which you have trans-  
21       mission at the moment, utilization of those plants would cer-  
22       tainly reduce additional transmission costs, wouldn't they?

23  A    Yes, sir, and we are utilizing to the maximum extent possible  
24       at all times, sir.

25  Q    For a number of reasons, I assume; one of which is that the  
26       operation of the hydro plant is the chiefest of the major  
27       alternatives available; isn't that true?

28  A    Yes, sir, those we have on our system are.

1 Q And it is also true, is it not, that the operation of a hydro  
2 plant is the most reliable of the alternatives readily avail-  
3 able?

4 A Yes, sir; but we've run out of the hydro.

5 Q How are you coming along with your Buffalo Rapids application?

6 A Just recently the Federal Power Commission dismissed the  
7 application.

8 Q Buffalo Rapids?

9 A Yes, sir.

10 Q Why did they do that?

11 A We hadn't been able to reach agreement with the Indians; that  
12 was the statement in their report.

13 Q Mr. Hofacker, did you have a chance to review that file before  
14 the application was dismissed?

15 A I did not review the cause, sir.

16 Q Do you know whether the letter from the Federal Power Commission  
17 asking you to respond to the status of the application in 1972  
18 was ever answered?

19 A I don't know that, sir. These are the same questions you were  
20 asking me last spring, and I think I've replied the same way.

21 Q That's right, and I wondered if you found out in the nine  
22 months that intervened?

23 A No.

24 Q What was the megawattage for average energy that you had  
25 sought from Buffalo Rapids?

26 A About 120 megawatts, sir, I believe.

27 Q And the peak?

28 A About 260.

1 Q Would it have taken you about five years to build that project?

2 A Right, sir.

3 Q Is it your testimony today, Mr. Hofacker, that you have no  
4 pending applications and no current plans for the development  
5 of any additional hydrocapacity for the Montana Power Company?

6 A Until this Hills Canyon bill was signed, we had that one that  
7 was pending, for 20-odd years.

8 Q Now we're talking about today.

9 A Yes, sir. And now we have none at the moment. We have a  
10 reapplication for license on Kerr pending at the moment; and  
11 that may or may not involve some increased capability there.

12 Q In each of the long-range plans which you have filed with the  
13 Department of Natural Resources, you have projected the  
14 utilization of gas turbine facilities. Do you have any current  
15 plans for the development of a gas turbine facility?

16 A No, sir. That's something that has been heretofore relatively  
17 easy to get on line; I mean, the time period is rather short,  
18 so we don't have to make the decision yet.

19 Q How short a period of time is it necessary?

20 A Well, I wouldn't hazard a guess as to how long it would take  
21 to get a permit; but following that, two years.

22 Q You generally project about four years for a gas turbine  
23 facility from the moment that you decide to do one until the  
24 moment that it goes onstream, don't you?

25 A I would think we probably would have to utilize that time now,  
26 depending. There's never been an application for a gas turbine  
27 in Montana with the siting law, so I don't know how fast it  
28 would go.



1 Q Okay. As I understand the state of your planning for resources  
2 that we've made available to you, you have still at this  
3 moment, no specific contingency plan, aside from Colstrip 3  
4 and 4; is that right?

5 A That's right, sir.

6 Q Now let's assume tomorrow, Mr. Hofacker, that you received  
7 definitive word that you will not be permitted to build Colstrip  
8 3 and 4; what contingency plan would you have then?

9 A As I outlined last spring, sir,

10 Q No change?

11 A No change.

12 HEARINGS EXAMINER: Would this be a good time to  
13 recess for lunch?

14 MR. SHENKER: "No change" is always a good time to  
15 recess.

16 HEARINGS EXAMINER: Alright, 1:30 please.

17 (RECESS: 12:00 Noon)

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1 Following the luncheon recess, the hearing reconvened at  
2 1:35 P.M. on January 19, 1976.

3  
4 CONTINUATION OF EXAMINATION OF ROGER A. HOFACKER

5 Cross on written statement, by Department of Natural Resources  
6 and Conservation

7 By Mr. Shenker: (continuing):

8 Q This morning, Mr. Hofacker, we were talking about some  
9 changes that were made in your load forecasts, downward.  
10 When last you testified, sir, in June of last year, you  
11 had then reduced your load forecasts for 1976 and 1977,  
12 on the basis of the most immediate performance of loads that  
13 you had. Is it fair to say, Mr. Hofacker, that the current  
14 reduction, even further downward, is again based upon the  
15 most recent performance that you've had on your actual loads?

16 A That and the most recent information from our block load  
17 customers.

18 Q Particularly the Anaconda Company?

19 A Yes, sir.

20 Q I would like to talk with you for a little bit, Mr. Hofacker,  
21 about regional planning. You've already told me that, in  
22 your view, the comprehensive energy policy for the State of  
23 Montana is an important goal to which you subscribe. I take  
24 it that the Montana Power Company and the other applicants  
25 share, or subscribe, to that goal? Would that be correct?

26 A Yes, sir.

27 Q I take it also to be your view that a comprehensive, sound  
28 regional planning perspective is at least equally important?

1 A Yes, sir.

2 Q As you look at the region of the Pacific Northwest served by  
3 the five applicants in this proceeding, Mr. Hofacker, it is  
4 fair to say, is it not, that by the year 1985, with the  
5 production of energy from substantial new nuclear capacities,  
6 you would expect that all forecasts of load ought to be met?

7 A I would have to look at our exhibit, here, to find that out.  
8 As far as -- when you talk about the whole Pacific Northwest,  
9 all utilities, public, private and otherwise, in the Northwest?

10 Q Yes.

11 A I'd have to look at the latest forecast on that one.

12 Q Were you here when Mr. O'Connor testified on that subject?

13 A I was here, yes, sir.

14 Q Would you agree with his view that power shortages now  
15 projected by the Montana Power Company and its sister  
16 utilities will end by 1985, partially because of the number  
17 of nuclear facilities being proposed then?

18 A That's if we've got 3 and 4 in then. Yes, I would agree with  
19 the statement with that added to it, but 3 and 4 is a definite  
20 part of that.

21 Q Do you know what the total amount of energy is that is fore-  
22 cast for the Pacific Northwest as a whole, by the public,  
23 governmental, cooperative for 1985?

24 A I'd have to look at the report. I don't know. I don't have  
25 it in my head, sir.

26 Q There's no ball-park figure that sticks in your head on that?

27 A No, sir.

28 Q Do you know what the total energy supply is by the Bonneville



1 Power Administration?

2 A No, sir.

3 Q Without looking at your exhibits --

4 A I'd have to look for the references for that. I don't carry  
5 that in my head.

6 Q Without looking at your exhibits, do you know what the total  
7 energy forecast is for the five applicants for 1985?

8 A No, sir. I'd be way off on a guess, I'm afraid.

9 Q How about the Montana Power Company; do you know, without  
10 looking at your exhibits, what its total energy forecast is  
11 for 1985?

12 A You mean resources or loads?

13 Q They're pretty close; either one.

14 A Well, our loads in '85 -- I can't pull the exact number; I  
15 can add up in pieces. We have about 360 in hydro; with the  
16 Corette units, about 157; with our share of 1 and 2, 120  
17 approximately from each of those; there's 240; there's 380 --  
18 about 600. And then out of 3 and 4, about 300 -- about 900  
19 plus. Now I will look at my exhibit.

20 Q Now, Mr. Hofacker, what we are at work here discussing, I  
21 take it, is somewhat akin to a jigsaw puzzle, with one piece  
22 being rather important to the other pieces that are put into  
23 the total picture?

24 A Yes, sir.

25 Q For example, if the Pacific Power and Light Company were to  
26 have some other resource available to it between now and  
27 1985 to replace what might be its share of Colstrip, then  
28 that amount of energy need would be available to other

1 applicants, or at least that amount of energy need would  
2 disappear out of the Colstrip project, right?

3 A Yes, sir.

4 Q That would be true of each of the other applicants, as well?

5 A Yes, sir.

6 Q It would be true of the Montana Power Company itself, for  
7 that matter?

8 A Surely.

9 Q If you took one of the non-applicants in this proceeding,  
10 such as the sister utilities about us here, the Idaho Power  
11 Company or the Utah Power and Light Company, if they were  
12 to have available to them substantial additional resources  
13 between now and 1985 which were not necessary to meet their  
14 loads alone, then that would be power also available for any  
15 of the applicants in this proceeding, on a negotiating basis,  
16 would it not?

17 A It would be if it was, in fact, the case.

18 Q Sure. If you took any of the investor-owned utilities, or  
19 the cooperatives, or the governmental groups, and they were  
20 to have some change in their loads or resources between now  
21 and 1985, that would have an effect on the need projected by  
22 the five applicants here; isn't that true?

23 A It would; and those changes in their loads or resources could  
24 be up or down. That's anybody's guess, what might happen.

25 Q Well, are there not some things that utilities can do in order  
26 to help the guesswork so that we are less subject to the  
27 ups and downs?

28 A Regional planning, which is what we're doing.

1 Q Anything else you can think of?

2 A Well, if somebody came up with a better way of forecasting,  
3 that could be a way, if there is such a better way.

4 Q Have you personally, Mr. Hofacker, done any study of the  
5 loads and resources of utilities in the Pacific Northwest,  
6 aside from the five applicants?

7 A Yes, we've worked with Idaho, and we've worked with Utah,  
8 and we've worked at times with Public Service of Colorado  
9 even, and we've worked through Utah with Arizona Public  
10 Service Commission, or Public Service Company.

11 Q Have you done any regional planning with each of those  
12 companies?

13 A We have done it in groups as I -- Last spring when we went  
14 through this bit of the amps bit and the puni(?) bit, and so  
15 forth.

16 Q As you described, and that's on the record. Is there anything  
17 additional that you can tell me by way of regional planning?

18 A That, and I mentioned the WSCC of exchanging of plans. That's  
19 it.

20 Q Since that time, you have done nothing else by way of  
21 regional planning?

22 A Nothing other than the normal exchange of information that's  
23 gone on.

24 A As you had described last time?

25 A Yes, sir.

26 Q How do you propose, Mr. Hofacker, that this Board of  
27 Natural Resources and Conservation should speak to the  
28 loads and resources, the planning and forecasting, of the



1 utilities not based in Montana, which are not applicants  
2 of this proceeding?

3 A Well, first off I would think that they would, could assume,  
4 at least I probably could assume, that each of the partici-  
5 pants have been in contact with what might be available from  
6 all the other parties, as far as reducing the need to put on  
7 additional resources and starting from that, then they would  
8 have the information; but I think that the Board of Natural  
9 Resources gets reports through various channels, I believe,  
10 or the department does anyway, the WSCC reports and others.  
11 And I presume they have access to people such as BPA, and  
12 things like that.

13 Q Let us assume, Mr. Hofacker, that a utility company, not  
14 one of the applicants in this proceeding, had available to it  
15 resources which were in surplus of loads that it had to meet,  
16 and that company determines that it simply did not wish to  
17 bring those resources on line as early as they might be  
18 available; how would you expect the Board of Natural  
19 Resources and Conservation of Montana to address that  
20 decision by such a utility?

21 A I don't think they would have any say-so as to what that  
22 utility would do. I think that's a management decision that,  
23 unless the state's going to run the whole affair, why, I don't  
24 know how else to do it. There may be some very good and valid  
25 reasons; they may ask as to why, but as far as them ordering  
26 them, I would see no statute by where they'd have any  
27 authority in that area.

28 Q Now, before you decided by agreement with the four applicants

1 in this proceeding to file a joint application, did you  
2 consult with any state agency as to their views on such a  
3 joint application?

4 A No, sir. First off, there wasn't such a state agency when we  
5 started. I mean, it would seem appropriate when we started  
6 this coordination, or working with others, and we've done  
7 that for 30 years - 40 years. On this particular project,  
8 we were looking to this, as you -- in the testimony last  
9 spring, was started in 1971, and you would look to those  
10 agencies or companies that would have knowledge in this area.  
11 And I don't know who in the state had knowledge at that time.

12 Q Was that one of your considerations in your planning?

13 A Well, certainly it would be. You get all the information that  
14 you can usefully use in planning, and go from there.

15 Q I'm not sure you understood my question. I meant, was  
16 whether there was not a knowledgeable state group with whom  
17 you could share your planning and thinking? Was that one  
18 of your considerations in your plan?

19 A Well, our -- had there been a knowledgeable group, it surely  
20 would have been, but at that time there wasn't, other than  
21 what the Public Service Commission may have known about.  
22 And that, at that time anyway, as I understand it, was out of  
23 their purview as far as the planning function.

24 Q As far as you're concerned, Mr. Hofacker, as the Chief  
25 Engineer for the Montana Power Company in the years in  
26 which the decision making was made to go to Colstrip, there  
27 were no sites considered by the five applicants to get out-  
28 side the state of Montana for generating facilities of the

1 size proposed for Colstrip. Is that correct?

2 A There were none for the reasons I outlined in my testimony  
3 last spring, that the site was at hand and there appeared to  
4 be no other resources that we could get on in time.

5 Q In effect, what you're telling us is that the decision to  
6 go to Colstrip 1 and 2 triggered the decision to go to  
7 Colstrip 3 and 4?

8 A Not necessarily so.

9 Q When you say --

10 A They were made independently, sir.

11 Q When you say no site was at hand, what you meant was, that  
12 there was a site at hand at Colstrip 1 and 2. That's what  
13 you meant?

14 A Yes, sir. That's what I meant. Yes, sir.

15 Q And, therefore, had you not gone to Colstrip 1 and 2, that  
16 site would not have been available when you got to 3 and 4  
17 stage?

18 A No, it wouldn't have been as readily available; it still  
19 could have been a possible site to look at, but it wasn't,  
20 wouldn't have been as readily available, no.

21 Q All right, Mr. Hofacker, I wanted to look with you just  
22 briefly now at some of the additional exhibits that have been  
23 revised for this hearing. Will you take a look at the bar  
24 chart, Exhibit 3-D?

25 A I have it.

26 Q Now that, I take it, tries to portray, in the graphic way,  
27 information that you have placed first on Exhibit number 3-C?

28 A Yes, sir.



1 Q And what that tells us, I take it, is aside from reserves,  
2 in every year prior to 1985 your resources will be in excess  
3 of your load?

4 A Yes, sir, in numbers, but not in availability.

5 Q And when you say, "not in availability," you mean that some  
6 of your resources will, in fact, be in reserves?

7 A No, some of them could very well not be available because  
8 of your forced outage rates that -- you know some of them are  
9 going to be down at certain times and they, whether they  
10 would be available at the time that you needed them all, is  
11 the reason we put reserves, to cover that contingency.

12 Q But, actually you could put the reserves either on the left  
13 hand side or the right hand side of your bar graph --

14 A Yes, sir.

15 Q -- because they're just simply the opposite side of the coin;  
16 but when you say non-availability because of outage on the  
17 left hand side of each of the pairs of bars, you're simply  
18 saying the same thing as what the reserves portray on the right  
19 hand side of the bar chart?

20 A Yes, sir. As you say, you could put them right on top of the  
21 load and say that with that reliability, these are the reserves  
22 to carry that load.

23 Q Is it still the case that each of the utilities determines  
24 for itself how it will determine its reserves?

25 A Within certain parameters, yes, sir.

26 Q And now, Exhibit number 3-E --

27 A 3-E?

28 Q Yes, that's also a bar chart. It supercedes the old 3-B

1 A Yes, I have it.

2 Q That does the same thing for energy as your Exhibit 3-D did  
3 for peak?

4 A Yes, sir.

5 Q It portrays graphically that portion of the information on  
6 Exhibit Number 3-C and it deals with energy?

7 A Yes, sir.

8 Q And the customary way which you describe energy does not  
9 include reserves?

10 A By the availability it is, and the reduction of the resources  
11 available. It includes reserves, maintenance, and so forth.

12 Q Right. Your forced outages are just simply not available  
13 for delivering the energy?

14 A No, they are not. You've only got so much energy.

15 Q Now, Exhibit Number 4-D and 4-E, I take it again, graphically  
16 are intended to portray the information that appears on  
17 Exhibit 4-C?

18 A Yes, sir. Yes, for the peak and the energy portions.

19 Q All right. And the differences between the Exhibit 4 series  
20 and the Exhibit 3 series are merely the addition of Colstrip  
21 in Exhibit 4?

22 A Yes, sir.

23 Q If you look at Exhibit Number 5-C, I take it that that intends  
24 to portray in a graphic manner the information that appears  
25 on Exhibit Number 5-B?

26 A Number 5-B -- Now I've got to find 5-C, but I'm sure that's  
27 a fact. I must have gotten them mixed up here before lunch  
28 when I stacked them up. Yes, sir, here it is.

1 Q Your Exhibit number 6-C, I take it, is to portray graphically  
2 the information that appears on Exhibit 6-B?

3 A Yes, sir.

4 Q Then moving to Exhibit 7-B, that I take it, is the same as  
5 Exhibit 6-B with the difference being the reference to peak,  
6 instead of energy, and the inclusion of units 3 and 4?

7 A Yes, sir, 6-B excludes 3 and 4, as you said.

8 Q And 7-B includes --

9 A Includes, right.

10 Q By the way, with 3 and 4 included on your Exhibit number 7-B,  
11 of course you have a surplus in every year projected, do you  
12 not?

13 A We do, sir.

14 Q And the surplus in the year 1981-1982, right after the  
15 critical period that we discussed before, is 348 megawatts?

16 A Yes, sir.

17 Q Now Exhibit number 7-C, I take it, is to portray graphically  
18 the information that appears on Exhibit number 7-B?

19 A Yes, sir.

20 Q And Exhibit number 8-B is the same as Exhibit number 7-B with  
21 the exception being the reference to energy instead of peak?

22 A Yes, sir.

23 Q And Exhibit number 8-B, of course, with the inclusion of  
24 Colstrip, shows a surplus in every year, beginning with 1980,  
25 which is the first year you now propose for Colstrip unit 3?

26 A Yes, sir.

27 Q With the surplus in 1981 being 200 megawatts?

28 A Yes, sir.



1 Q Exhibit number 8-C intends only to show graphically the in-  
2 formation that appears on Exhibit 8-B?

3 A Correct.

4 Q And Exhibit number 9-A is your projection of your growth  
5 rates as we have discussed this morning; this is a graphic  
6 way of your showing what you think the growth rates will be?

7 A Yes, sir.

8 Q Exhibit number 10-A, Mr. Hofacker, I take it, is the same  
9 as Exhibit number 10 that you had provided for us previously  
10 with the lines simply being completed --

11 A No, there's seven months or so added onto it, yes, sir.

12 Q All right, sir.

13 MR. SHENKER: I have no further questions of Mr.  
14 Hofacker at this time, Mr. Davis. With respect to the  
15 Exhibits series 5-6-7-8-9 and 10, I have no objections.  
16 The series 3 and 4, I have the objection only that, as  
17 Mr. Hofacker pointed out, he does not know the basis  
18 for accuracy of the information received from the other  
19 companies; so I think we really should wait until we  
20 hear from the other companies before a ruling is made  
21 on Exhibits 3 and 4.

22 HEARINGS EXAMINER: Very well, I'll note your  
23 objections. I won't rule on them until after Mr. Graybill  
24 or anyone else has their opportunity to voir-dire or  
25 cross. Mr. Graybill?

26 MR. GRAYBILL: Thank you.

27  
28 Cross on written statement, by Northern Plains Resource Council

1 By Mr. Graybill:

2 Q Mr. Hofacker, in reading your statement, I notice on the  
3 first page thereof, line 21 and the following, you point  
4 out that several new electric plants planned by the partici-  
5 pants have experienced changes in their completion dates.  
6 And then you say, that because of the length of these hearings,  
7 Colstrip 3 and 4 cannot now be completed. This morning when  
8 Mr. Shenker asked you about this, you attributed the later  
9 completion date on 3 and 4, that you have now projected, as  
10 a result of these hearings. Isn't that true?

11 A I did, and I perhaps should amplify that, this last year's  
12 extension of the hearings; the previous was the time taken to  
13 prepare and present the data by the Department of Natural  
14 Resources.

15 Q All right. Now I'd like to examine Exhibit number 2-A with  
16 you, in conjunction with that statement. If I understand  
17 correctly, the exhibit consists of this map which shows the  
18 location of some of these plants, and then on the right hand  
19 side, a chart showing the capability and the name of the  
20 plant and some probable energy dates. Are you with me there?

21 A Yes, I'm wondering if this has ever been presented as an  
22 exhibit. I just asked a question of my lawyer, because it's  
23 not my exhibit.

24 MR. BELLINGHAM: It is not in evidence.

25 Q Well, you are familiar with it, are you, Mr. Hofacker?

26 A I am that.

27 Q Okay, I don't really care whether it's in evidence. I think  
28 it illustrates your point and I want to talk about the

1       probable energy dates with you. Now, let's look first at  
2       the information down there on Skagit, number 1 and number 2;  
3       do you see that?

4   A     Yes, sir.

5   Q     Where you say on this, or where the applicants, whoever is  
6       going to put this in, says that the probable energy date is  
7       going to be August of '83 and August of '86 for those two  
8       completions. Do you see that?

9   A     Yes, sir.

10  Q     Are you familiar with the fact that as recently as a year ago  
11       or less, March of 1975, when the Puget Sound Power and Light  
12       put out its annual report, on page 10 of that annual report  
13       it showed they expected Skagit to be unit number 1 in '82 and  
14       unit number 2 in 85? In other words, they -- in less than  
15       a year ago, they were predicting those particular plants would  
16       be in operation a year earlier than proposed Exhibit 2 shows,  
17       2-A?

18  A     Yes, sir.

19  Q     You are familiar with that?

20  A     I am familiar with those dates, but may I suggest this is a  
21       proper question for the Puget people, because I have nothing  
22       to do with their planning, sir.

23  Q     Well, what I wanted to ask you, in conjunction with your  
24       statement, where you said that certain of several new electric  
25       power plants were experiencing change in their schedules; now  
26       that's right out of your -- I'm reading off of your statement.

27  A     That's right.

28  Q     Is Skagit one of them that is experiencing changes in



1 schedules?

2 A Yes, sir.

3 Q Pardon?

4 A Yes, sir.

5 Q And is that schedule change the result of a hearing on siting?

6 A I do not know, sir. You -- Mr. Dave Knight will be a witness,  
7 and he can clarify that for you, sir.

8 Q Do you know why that plant is delayed now, a year from what  
9 they were predicting a year before?

10 A No, sir.

11 Q So, you really don't know why it is delayed, but you do know  
12 that it is delayed, is that it?

13 A Yes, sir, because we were provided this information, but we  
14 were not privy to the decision's why.

15 Q So, one of the other big plants, namely one that's between  
16 1 and 2, is going to produce over 2500 megawatts, has also  
17 been delayed a year. Have you taken that delay into effect  
18 in making your exhibits here, the ones you've just testified  
19 to, the bar graphs?

20 A That is the -- as far as the five companies, I believe must  
21 represent these types of data, but you'll have to ask those  
22 people, those representing those companies whether they, in  
23 fact, do. That was the data provided us. Now may I --

24 MR. GRAYBILL: Now, Mr. Hearing Examiner, I'd like  
25 you to hear this, because the witness is telling us that  
26 he doesn't know the basis of delays in the Skagit Plant,  
27 which he says are incorporated in the evidence that are  
28 in the new exhibits that he is going to put in. Of

1 course if he didn't know, I don't know how a proper  
2 foundation would have been laid for their admission.

3 A Sir, the data that we compiled was taking their loads and  
4 their resource data as they tabulated them to us and we  
5 combined them and made a composite one. We had nothing to  
6 do with the basic data; we provided the report.

7 MR. GRAYBILL: All right, let's get so the  
8 Hearing Officer hears this.

9 HEARING EXAMINER: I heard it when he said it  
10 this morning, too. He testified to that before, when  
11 you were absent.

12 Q Yes, but do you know -- I've now established, I take it, by  
13 you, and if you don't disagree with the Puget Sound's annual  
14 report, that as recently as March of last year, they were  
15 expecting Skagit to be in production in 1982 and '85 and now  
16 it's '83 and '86, in other words, a year delay?

17 A Yes, sir.

18 Q And I've asked you if you've taken that into account in  
19 making your new graphs --

20 A And I replied, sir, that the taking into account was in their  
21 tabulation to us of their loads and resources.

22 Q Are you saying that you are certain they took that into  
23 account in sending you their loads? Do you know that as a --

24 A I have no way of being certain, no sir, and I would suggest  
25 that you ask the party that knows.

26 Q Well, of course, I'm asking you what you know about the  
27 exhibits that you are introducing and I want to know whether  
28 you know whether that delay has been taken into account in the

1 material that you are now placing on -- I think it's 3 --

2 A Sir, we know that --

3 Q Wait until I ask the question, will you? I want to know  
4 whether in the series 3, series 4, series 5 -- I think it's  
5 just the 3 and 4 which are the combined loads of the five  
6 applicants, whether you know, of your own knowledge, whether  
7 the information about Skagit's delay is included in the  
8 information presented there?

9 A No, I do not, sir. I know that arithmetically the numbers  
10 given us are proper in those exhibits.

11 Q Well, do you know whether Skagit is reflected there?

12 A All I would have to do is assume it is, and again suggest  
13 that you talk with Mr. Puget.

14 Q How do you know that the numbers they supplied you are  
15 arithmetically correct?

16 A The numbers -- we took the numbers that they gave us and --  
17 I meant arithmetically correct in our exhibits that we  
18 prepared, using their data.

19 Q Uh, huh. The fact, then, is that since you testified last  
20 spring, one of the major power plant projects, of some of  
21 these five applicants, has been delayed a year out in the  
22 state of Washington. Is that right?

23 A That's right, sir.

24 Q And you don't know why it has been delayed?

25 A Not positively, no.

26 Q Well, you certainly do not know that it's because of the  
27 hearing, do you?

28 A This hearing?



1 Q Any hearing.

2 A It might be of some other hearing, but I don't know that it

3 has anything to do with this hearing, sir.

4 Q And you don't know that it has to do with another hearing,

5 do you?

6 A Not positively, no, sir.

7 Q So you just don't know why Skagit was delayed?

8 A And I did not even indicate in my statement that I knew.

9 Q No, but you indicated that there had been delays, and I am

10 trying to find out what you know about the delays you've

11 talked about.

12 A Only the tabulation they gave us showing the delay, sir.

13 Q All right, now this proposed Exhibit 2-A also shows the Jim

14 Bridger plants, and I notice that number 4, there, you are

15 projecting for December of 1979. Do you see that?

16 A I am not projecting it, sir; that's the way somebody did it

17 for --

18 Q All right, the applicants here are projecting it?

19 A Yes, sir.

20 Q All right, are you aware that as recently as last March 15,

21 in the annual report of Pacific Power and Light, that unit 4

22 of Jim Bridger was predicted for March of 1977?

23 A It well might have been. I don't recall the report, but it

24 could have been. Not '77, not for number 4, sir, was it?

25 That's number 3, I believe, or yes, number 3.

26 Q Work on the two additional units scheduled for commercial --

27 A Right.

28 Q -- service in June, 1976, and March, 1977, is progressing

1           satisfactorily?

2   A       That's Number 2 and Number 3, sir, I believe.

3   Q       Well, I think it's 3 and 4, but in any event, let's assume  
4           that it's 3 and 4 as you say; that indicates that there's  
5           been a delay in the completion of Jim Bridger from just March  
6           of 1975, doesn't it?

7   A       Yes, sir.

8   Q       A delay of at least a year, right?

9   A       Is it a year?

10  Q       Well, March of '77 --

11  A       This is July of '77 and that's like four months, I think.

12  Q       So you do not know then, whether there is a delay, is that what  
13           you're saying?

14  A       Only to the extent that they told us there was a delay.

15  Q       Do you know why there is a delay in --

16  A       No, sir.

17  Q       -- the Jim Bridger Plant? Is it because of a siting hearing  
18           of any nature in Wyoming, that you know of?

19  A       None that I know of in that area, sir.

20  Q       The -- I notice that this chart is headed "Thermal Plant."  
21           What is WNP 2 1 3 5 and 4 mean, do you know?

22  A       That's the Washington Public Power supply system, and WNP, I  
23           think it means Washington Nuclear Plant, I believe.

24  Q       I think so. So, in other words, this includes nuclear plants,  
25           is that it?

26  A       Yes, sir, as is Skagit.

27  Q       Do you know the names of those nuclear plants that are  
28           described here?

1 A Not other than those WNP's are just by numbers, I believe.  
2 I believe maybe that WNP 5 is sometimes referred to as Satsap,  
3 I believe. I think maybe some of those 1, 2 and 4 might be  
4 called Hanford --

5 Q Well, let's --

6 A -- because of the location, but that's --

7 Q Let's talk for a minute about WNP Number 3, which this chart  
8 shows to be completed in September of 1983. As recently as  
9 March of 1975, the Washington Water Power, in its 1974 annual  
10 report said --

11 A Sir, this is not Washington Water Power.

12 Q Just wait until I ask the question, sir, and you'll under-  
13 stand --

14 A I'm sorry; O.K.

15 Q -- a lot better what I'm driving at.

16 A I'm sorry.

17 Q In its annual report, the Washington Water Power said, in its  
18 1974 annual report, the company is also participating in  
19 three nuclear plants with a 5 per cent share of their output,  
20 but first WNP Number 3 is scheduled for 1981. Does that  
21 indicate that there's been a two-year delay since last  
22 March in the completion of WNP Number 3?

23 A It surely would, from those numbers.

24 Q Do you know what's caused that delay in WNP Number 3?

25 A No, sir.

26 Q Has it been, to your knowledge, a siting hearing of any  
27 nature in Washington?

28 A I have no idea as to what the delay is for.



1 Q But the fact of the matter is that WNP Number 3, if we're  
2 to believe this evidence, has been delayed at least two years  
3 is that right?

4 A Yes, sir.

5 Q And then you have two -- the applicants here have two plants  
6 called Pebble Springs; do you see them there?

7 A Yes, sir.

8 Q They show an '83 and an '86 completion date on this chart?

9 A Yes, sir.

10 Q In the Portland General's 1974 annual report, which came out  
11 in about March of 1975, February 14, it's dated, of 1975,  
12 they say that the completion of unit Number 1 at Pebble  
13 Springs is scheduled for 1982, and unit Number 2 for 1985.  
14 That would indicate that unit Number 1 and unit Number 2 at  
15 Pebble Springs have each experienced a one-year delay. Is  
16 that right?

17 A Yes, sir.

18 Q Then, is the Trojan shown at all on --

19 A At the very top of the list there, see.

20 Q It's the top one. The Portland General's annual statement  
21 said operation is scheduled for late 1975; do you know  
22 whether Trojan's in --

23 A I believe they are actually generating some power out of it  
24 now; how much I'm not sure.

25 Q So it would only be three to six months late, is that  
26 possible?

27 A Yes, sir, I think that's right.

28 Q All right. Now, of the plants that we've discussed, and I

1 haven't tried to discuss them all, we find then that the  
2 Jim Bridger Number 4, the Washington Nuclear Power Number 3,  
3 the Pebble Springs Numbers 1 and 2, and the Skagit's Numbers  
4 1 and 2, each have experienced about a one year's delay, and  
5 in one or two cases, maybe two -- I guess in the Washington  
6 Nuclear Power it's been a two-year delay, since last year;  
7 is that right?

8 A Yes.

9 Q And you don't know to what these delays are attributed? As  
10 an electrical engineer, you really have no idea?

11 A There could be various reasons, but I couldn't testify that  
12 I know exactly what they are.

13 Q Well, could you testify that you have any idea what their  
14 delays are all about?

15 A I can assume that they are a combination of engineering,  
16 siting or hearings with the -- in the nuclears with the  
17 nuclear authorities, and I would think there could be a  
18 problem with the state -- I don't mean problem, but I mean  
19 time involved with getting resolutions from state authorities,  
20 this type, but I don't know how much each one may have  
21 contributed, if any, to it.

22 Q And, as a matter of fact, you've told me that you really  
23 don't know of any hearing delays in any of those cases. Is  
24 that right?

25 A I can't testify that I do.

26 Q Do you know of any demand relaxations that might make these  
27 company managements postpone their plants?

28 A When you say demand relaxations, what do you mean sir?

1 Q Well, I mean where the companies have experienced a sag in  
2 demand and they think they aren't going to need the power  
3 quite as quickly.

4 A You had best inquire of those companies' managements.

5 Q Wait a minute, you didn't listen to my question. My question  
6 is, do you know of any sagging demands that might lead to  
7 these plants being delayed?

8 A No, sir, I do not participate in their planning as to why  
9 they move these things --

10 Q So, you've put together --

11 A Your representatives do.

12 Q You've put together the information that you have about their  
13 future demand without having any knowledge as to whether  
14 their present demands may be sagging?

15 A Sir, as I've said before, we take their reports, assume them  
16 to be responsible reports, and compile the information from  
17 that, sir.

18 Q If, in fact, their demands were sagging, would that mean that  
19 their reports were not responsible?

20 A Not necessarily so. If their response are sagging, they --  
21 I would assume they would represent it in their reports; the  
22 resulting numbers reflect that. I have to assume this.

23 Q Well, for whatever reason these other plants are delayed,  
24 the fact of the matter, then, is that many of the other  
25 major thermonuclear plants have been delayed, besides  
26 Colstrip 1 and 2 --

27 A Yes, sir.

28 Q -- or Colstrip 3 and 4, isn't that true?



1 A Yes, sir.

2 Q Are you familiar with an investigation which the Federal  
3 Power Commission sent a team into Montana to make, last  
4 spring or summer, as to delays in the building of thermonuclear  
5 power plants?

6 A There was a team, yes, sir.

7 Q I guess it's the Federal Energy Administration --

8 A I think it's FEA rather than FPC.

9 Q Yes, FEA. You are familiar with that task force?

10 A Yes, I did not participate, but I know they were investigating,  
11 all over the country, I believe.

12 Q And, as a matter of fact, do you know that they investigated  
13 in Montana?

14 A I know there were people in Montana, yes, sir.

15 Q Don't you know that members, or officers, or figures, from  
16 the Montana Power did talk to them?

17 A I know that they did, yes, sir.

18 Q And aren't you familiar with the fact that they also --  
19 this task force also investigated in other parts of the  
20 Pacific Northwest?

21 A I am, sir.

22 Q And particularly the areas in which the other four applicant  
23 companies here have their distribution systems?

24 A Yes, sir.

25 Q Are you familiar with the fact that they came out with a  
26 report on the second of October, 1975, this FEA task force?

27 A Yes, sir.

28 Q Have you read that report?

1 A I read it at the time. I didn't study it, sir.

2 Q Then you'll probably remember that the first reason that

3 they gave, that these power plants were not being built

4 on what they considered a timely basis, was financial dif-

5 ficulties. Do you remember that?

6 A I remember that statement of theirs.

7 Q Do you find their investigation to have been -- do you find

8 that to be an erroneous conclusion, in your opinion?

9 A I haven't investigated to find it or test it one way or the

10 other, sir.

11 Q Did you feel that that was a valid conclusion from your

12 knowledge of this --

13 A As I said, I had no way of testing how valid or not valid;

14 I knew as far as my own company, but I don't know about the

15 others, sir.

16 Q But you're aware that the Federal Energy task force found

17 that financing difficulties was the first reason for the

18 delay in these plants, the building of these plants?

19 A I don't recall the order in which they placed the priorities

20 on these, but I know that was one of the statements, yes, sir.

21 Q And are you familiar that -- with the fact that that report

22 said that the second reason, or second reason they gave, was

23 uncertainty about the future demand of electrical energy in

24 this area?

25 A Yes, sir.

26 Q And that the third one was federal and state regulatory

27 positions?

28 A I know it was in there, and as I said, I didn't recall the

1 order in which they were.

2 Q But you remember that the task force mentioned all three  
3 of those reasons?

4 A Yes, sir.

5 Q But you've testified here, today, that uncertainty about the  
6 future demand is not the reason 3 -- Colstrip 3 and 4 has been  
7 delayed, right?

8 Q That's right, sir.

9 A And yet, if this task force investigated the whole Pacific  
10 Northwest, it would almost have to have bumped into these  
11 same five companies, wouldn't it?

12 A Yes, but theirs covers a whole field and not -- they didn't  
13 pinpoint at any specific one, and their report is of general  
14 nature, and I'm sure there are variances among the various  
15 entities they investigated.

16 Q Probably so, but if uncertainties as to future demand was one  
17 of the major reasons in the Pacific Northwest, wouldn't that  
18 influence whether or not Colstrip 3 and 4 were as necessary --  
19 or whether the delay was bad?

20 A It could certainly have some influence, but as I testified  
21 last spring, sir, uncertainties -- as a utility, operating  
22 utility, you're far better to be somewhat over in planning  
23 your resources than somewhat under, because you can do some-  
24 thing if you have planned something in some too soon. You  
25 can always delay it to bring it on line, but if you haven't  
26 planned it in adequate time and the load shows there's no  
27 way out of it, that's -- I testified to that last spring.

28 Q Well, and of course, you just testified a minute ago, here,



1       that you didn't know of any uncertainties as to these other  
2       companies' demands, isn't that true?

3   A     Sir, I said I'm not privy to their planning and they will  
4       have to testify to that properly, sir.

5   Q     Well, you don't know of any uncertainty in their demand,  
6       isn't that true?

7   A     I know they have revised their demands, as I so stated in  
8       here.

9   Q     And they've revised them downward or upward?

10  A     I would have to look at the specific -- I know there's  
11       revisions, and I think it's downward in many cases, but I'm  
12       not sure this is true of all of them, sir.

13  Q     Are you familiar with the project called Wyodak?

14  A     Yes, sir, in Wyoming.

15  Q     Are you familiar with the fact that it's now been delayed,  
16       too?

17  A     No, I wasn't aware that it had been delayed.

18  Q     Is there any reason that it doesn't show as a thermal plant  
19       useful in the combine here; isn't one of the members a  
20       party to it?

21  A     Because it's not part of the hydrothermal program. I don't  
22       think that -- well, it might be in that Pacific has a part  
23       owner in it. But I think these were just examples of the  
24       main plants that are coming in, so, I don't see any reason  
25       why it couldn't have been on there.

26  Q     As far as you know this Exhibit 2-A is not exhaustive; it  
27       doesn't have all the plants on it?

28  A     Well, I think it's all there; the principal ones aren't in

1 the Northwest. I don't know of any it misses in the way of  
2 the thermal plants, other than that Wyodak one in Wyoming.

3 Q But that's a thermal plant, isn't it?

4 A But I don't think it's ever been really introduced into the  
5 hydothermal program in the Northwest, as such a plant.

6 Q Well, are you familiar with the fact that the foundation  
7 for the building for the plant was built as long as a year  
8 ago, according to Pacific Power and Light's annual report?

9 A I know the project's been going on for some period of time.

10 Q Well, you really don't know why that 330 megawatt plant was  
11 left off of Exhibit 2-A?

12 A No, sir.

13 Q Well, a moment ago, you said you didn't know about demand  
14 changes in these other companies. I wonder, are you familiar  
15 with the fact that Puget -- now Puget Sound and Light, of  
16 course, is one of the applicants here, isn't it?

17 A Yes, sir.

18 Q Are you familiar with the fact that their peak load dropped  
19 between 1972 and 1973 and that it dropped again between 1973  
20 and 1974?

21 A It undoubtedly did if it's in that report, sir.

22 Q Now, I asked if you were familiar with that?

23 A I understand there was some dropping, yes, sir. I don't know  
24 the specific numbers.

25 Q Do you know how that's reflected in your exhibits --

26 A No, sir, other than I assume --

27 Q -- series 3 and 4?

28 A No, sir, other than as I said before, I assume it's in their

1 exhibits to us.

2 Q But you don't know whether it is, do you?

3 A No, sir, but they could be testified to by the Puget represent-  
4 tative that is sitting in this room, when he gets on the stand.

5 Q I'm sure he will be. I'm asking you. You put together these  
6 exhibits, didn't you, as I understand, 3 and 4 series?

7 A Yes, sir. Again I'll repeat what I said before. We took  
8 their reports, assumed they were proper and took those numbers  
9 and made the composite reports.

10 Q Can you be sure that the decline in their peak load, represented  
11 by the declines from '72 to '73 and '73 to '74, have been  
12 reflected in your exhibits?

13 A I have no way of saying "yes" to that, sir.

14 Q All right. Do you know whether or not their peak load  
15 declined further in 1975?

16 A No, sir, I do not.

17 Q And yet on page 6 of your statement, you make the statement,  
18 "Summing up the five participants' composite load forecasts,  
19 we find an increase in the average energy of 5.8 per year,  
20 compounded over ten years."

21 A Yes, sir.

22 Q You make that statement without knowing whether or not a  
23 3, either a 2 or a 3 year increase in Puget's peaks has  
24 been reflected?

25 A Sir, we made that, again, assuming their reports were correct,  
26 and using the numbers as they provided us, sir.

27 Q But what you're really testifying here is that you don't know,  
28 of your own knowledge, and you don't even -- you haven't even



1       seen their company figures, year by year; you don't really  
2       know whether those declines in the last year or two are  
3       reflected?

4   A     I have seen their company figures, year by year, sir, but  
5       I can't recall them to mind without refreshing my memory in  
6       them. I have seen their reports that were sent to us.

7   Q     Let's talk a minute about Pacific Power and Light. Are you  
8       aware that between 1973 and 1974 their total energy sales  
9       declined and that their power plant output, including their  
10      purchased output, declined in thousands of kilowatt hours?

11  A     I know it declined. I don't know the numbers.

12  Q     Do you know whether the decline in energy sales and in  
13      kilowatts generated, which Pacific Power and Light experienced,  
14      has been reflected in Exhibits series 3 and 4?

15  A     I can't answer in the affirmative, other than that I have  
16      said before, I assume that that is one of the factors utilized  
17      in making their forecasts. That's all I can say.

18  Q     Now, you stated on page 6 of your statement, that you found  
19      an increase in average energy of 5.8 per year. In its  
20      annual report for 1974, the Washington Water Power Company  
21      said that during the past year, that would be '73-'74, the  
22      Washington Water Power Company had a 2.5 per cent drop in  
23      electrical use. That would be a little less than half of  
24      what you predict for the year, for the decade, right?

25  A     Sir, those two statements are not compatible for this reason:  
26      In reading this, this we found over the ten-year period, a  
27      growth of 5.8 per cent per year, compounded, would result  
28      in the end number that was experienced versus the starting

1 number. Now, there may have been dips and downs; there may  
2 have been some years that it was far greater than 5.8. But  
3 this was over a ten-year period, and that is a one-year  
4 period that you --

5 Q Right. And I'm asking you if you were familiar with the fact  
6 that Washington Water Power's growth in the year immediately  
7 preceding, I don't have the '75 figures, but the '74 figures,  
8 was actually about half -- at about half the rate that you  
9 predict?

10 A I don't doubt that it was because most of them in that '73-'74  
11 period, as it has been testified to in previous - there were  
12 dips in the growth, because of economic conditions and other  
13 things.

14 Q Are you familiar with the fact that Portland General, in the  
15 years 1972 to 1973 and 1973 to 1974, experienced a marked  
16 decrease in the total number of kilowatt hours sold?

17 A I understand there has been decreases, but, again, I do not  
18 know the numbers.

19 Q And are you familiar with the fact that the 1973 and 1974,  
20 and that year, which was the last full year before this  
21 annual report, that Portland General experienced a decrease  
22 in its hourly peak?

23 A I believe they did.

24 Q Do you know whether those figures are represented in the  
25 series 3 and series 4 answers, or Exhibits, that you testified  
26 to here today?

27 A It's my same answer, sir.

28 Q So the fact of the matter is that you are not sure whether

1 they are reflected or not? You have simply taken figures  
2 that these companies have presented to you, without checking  
3 the background on them, is that right?

4 A That's right, sir, because each of those companies were going  
5 to be testifying, and then it would be accepted as an exhibit  
6 for this hearing.

7 Q Do you know whether Portland General experienced an increase  
8 in its electrical use in 1975?

9 A I do not, sir.

10 Q Do you know whether Washington Water Power did?

11 A I do not, sir.

12 Q Do you know whether PP & L experienced an increase in the  
13 amount of --

14 A No, sir, I know whether none of them. I know -- I don't  
15 know about any of them as far as 1975. I think it might be  
16 a little early. You'd have to do some probably rounding  
17 out in many cases to find out. It's only, it's less than  
18 three weeks into this year and finding out what happened in  
19 '75 takes a little while.

20 Q So, the fact is that you trended into the future without  
21 really knowing what these companies did last year, isn't that  
22 true?

23 A Again, sir, we trended using their numbers. We didn't trend  
24 their loads for them. We just took their forecasts as they  
25 provided them to us.

26 Q And despite the fact that at least three of the five partici-  
27 pants in this application had decreases in the 1974 year, and  
28 one had an increase of less than half what you predict



1 annually, you still feel that we should predict increasing  
2 loads in the future?

3 A Yes, sir, because you don't forecast the future on one little  
4 instant in time.

5 Q What about the Montana Power Company? Can you tell me in the  
6 Exhibits, or the record here, where I might find the figures  
7 on its actual electrical power use during last year, or the  
8 year before, or the year before that?

9 A I --

10 Q What Exhibit shows the Montana Power Company's total use of  
11 electrical energy in the past years?

12 A It seems like an Exhibit was presented, was there not, last  
13 year, or last spring?

14 Q Well, I don't know; I thought you might be more familiar with  
15 that than I am. Before you answer, let me preface my -- let  
16 me complete my question by saying this: The Exhibit 5 series,  
17 and the Exhibit 6 series, and the Exhibit 7 series, predict  
18 the Montana Power's electrical needs and load in the future,  
19 don't they?

20 A Yes, sir, they do.

21 Q O.K. Now where can I find those same kind of figures for the  
22 past in the record?

23 A Well, Exhibit 10-A graphically represents those, as did 10  
24 last spring.

25 Q Do you have those figures in numbers comparable to the --

26 A I do not -- wait a minute now.

27 Q Do you have the past figures and numbers comparable to  
28 Exhibit --

1 A Well, Exhibit 11 gives you the kilowatt hour sales of the  
2 Montana Power Company up through 1974.

3 Q O.K. That's probably the one --

4 A These are sales, not load. There's loss -- well we've added  
5 those in there, I take it back. There's the total energy  
6 load in Exhibit 11.

7 Q O.K. I'd like to look just a minute with you at Exhibit 6-C.  
8 If I understand 6-C correctly, the Montana Power's total  
9 load is shown by a yellow bar, is that right?

10 A Yes, sir.

11 Q And I notice that the yellow bar seems stationary, or rela-  
12 tively so between 1975-6 and 1976-7, is that right?

13 A Yes, not very much growth.

14 Q Do you have any explanation for that?

15 A Only as I did last spring in the hearing there, that our  
16 economics -- assessment of the economics indicated that it  
17 wouldn't grow as rapidly in the next two to three years.

18 Q And then between '76 and '77, it shows a marked increase,  
19 right?

20 A Yes, sir.

21 Q And on what evidence did you increase it in '76 and '77, when  
22 you didn't increase for '75 and '76?

23 A It appeared that we were coming out of the, or that coming out  
24 of the recession might be earlier than predicted. This is  
25 in national publications. You'll see this - these statements  
26 being made and it appeared in our own system where our energy  
27 grew 4.8 -- 5.86 per cent this year; our base load energy,  
28 not our total, indicated that maybe we were going to be

1 coming out of this faster than we thought we would.

2 Q In other words, you've based this on national estimates of  
3 when the recession might end?

4 A That's one of the many, many factors, sir.

5 Q Well, I'm sure --

6 A On our own system, was the principal one, that we saw the  
7 growth exceeded this year what we thought it would be when  
8 we were looking at it a year ago.

9 Q Then, why didn't that reflect in the '75-'76 year?

10 A Well, no, the '75-'76 would be the -- was over the '74-5  
11 period than the '75-6 growth that I'm talking about.

12 Q Well, now let's start over again. You're telling me that  
13 you've predicted a jump between '76 and '77 here, based on  
14 some national estimates that a recession that we're having  
15 nationally might be over? I understood you to say that,  
16 among other things?

17 A Yes, sir.

18 Q I'm sure you're as familiar as I am with the fact that those  
19 estimates change almost weekly --

20 A Yes, sir.

21 Q -- or monthly in the national news magazines and that they  
22 sometimes predict that it's going to end, and they sometimes  
23 predict that it isn't going to end. You and I would agree  
24 that that's rather nebulous evidence, isn't it?

25 A Yes, again, though, from the -- we have seen this past year,  
26 growths in energy consumption that we thought - that we hadn't  
27 anticipated.

28 Q All right, and then I -- If that's the case, I don't know why



1 your bar graph for 1976 is the same as the one for '75,  
2 for your total load?

3 A Sir, we came up here in -- if we had the '74-5 one on there,  
4 the growth from that to '75-6 would show the, that change.  
5 Now we started on a new base, and we didn't assume that it  
6 was going to be 5.86 for this coming year, we didn't assume  
7 that. We started at a new base and we assumed that this  
8 level would stay for another year, and then start up, even  
9 though it went up this much, and we're all the more confident  
10 that '77-'78 may very well be the year that it really turns  
11 around.

12 Q In other words, you're telling me that in the '74 year, your  
13 actual load was even lower than the first bar graph on  
14 Exhibit 6-C?

15 A Yes, sir.

16 Q And that you're estimating that it's going to go up in 1975,  
17 from last year?

18 A It did go up in '75.

19 Q Well, then '75-6.

20 A Now this -- well - now, I think I'm perhaps confusing you.  
21 Now, I was talking about the 1975 calender year. Now this  
22 is a seasons year, the July 1 to July 1 periods that we're  
23 looking here.

24 Q Uh, hmm. I'm trying to find out why you would estimate, and  
25 I would presume that your estimates might -- Let me ask this;  
26 I'd presume your estimates might be more accurate, the shorter  
27 they are away --

28 A That's right.

1 Q In other words, can't you estimate better what's going to  
2 happen next month, than what's going to happen next year?

3 A Yes, sir.

4 Q And next year you can estimate better than what's going to  
5 happen five years from now, can't you?

6 A Yes, sir.

7 Q So, your best estimate is that between '75-6 and '76-7, you're  
8 not going to have any growth, right?

9 A Not very much.

10 Q That's your best estimate?

11 A That's right.

12 Q And now I want to know what factor it is that makes you  
13 decide suddenly that a year and a half from now, you're going  
14 to get a good growth that you don't foresee now?

15 A Not a factor, sir; a judgment. We've seen these as you go  
16 back through our company's history of recessions; economic and  
17 coming back. Now we know the potential is there, because  
18 it was there before. The potential is there to grow as much  
19 as if we had not had this economic dip.

20 Q I mean --

21 A Witness the application for additional power that we've had  
22 that we've not acted on, or inquiries, I should say, and the  
23 fact that the Anaconda Company's depressed there, because of  
24 the price of copper. Should that change overnight, that can  
25 change things drastically; it has before.

26 Q Now, Mr. Leonard Powell, whom I'm sure you are familiar with,  
27 had an --

28 A Right.

1 -- editorial in the paper just yesterday, and I read it  
2 carefully to see what he thought was going to happen to  
3 copper, and I could not find anywhere in there that he was  
4 willing to say that it was ever going to come up or go  
5 down; he didn't seem to have any way of knowing. Did you  
6 see that editorial?

7 A I didn't see the editorial, but working with the Anaconda  
8 Company, I'm sure that would be exactly the line you'd do.  
9 You don't predict --

10 Q Then, how are you able to predict that the Anaconda Company  
11 is going to come back and use more electrical energy in 1977,  
12 if they aren't?

13 A Not in '77; I'm talking about '77-'78, sir, and thereafter.  
14 And this is just one of the factors that may bring this back  
15 up.

16 Q In other words, you're saying that in 1977-'78, the third  
17 set of bars over here, you've predicted that Anaconda is  
18 going to use more power again, is that right?

19 A Anaconda, among others, sir. That's not just Anaconda, this  
20 is --

21 Q But is Anaconda part of that rise?

22 A Yes, sir, and we've been told what it is through '77, what  
23 they're going to use, and then after that, we've had no  
24 assurance of block loads after the '77-'78 period, they've  
25 said for an indefinite period. It depends on what happens  
26 with the copper mine, so we know through the '77-'78 period  
27 what they plan to put on.

28 Q I would take it, then, that one of the reasons you didn't



1 raise it in '76-'77 is that they refused to admit they were  
2 going to buy any more power, right?

3 A They gave us a firm -- a letter stating firmly these were  
4 the maximum amount of powers, maximum amounts of power that  
5 they would expect to use in those periods. They went out  
6 through the '77 period.

7 Q Are those maximums up from '75-6?

8 A They are not, sir, they are --

9 Q Are they up from '74-5?

10 A Yes, sir, yes, sir. One of the things that's coming on here  
11 that's in test period right now is about 37 megawatts of  
12 electric furnace; and then there's some other minor things  
13 that they're doing in the way of pumping, so they're on the  
14 increase --

15 Q So what you're telling us --

16 A But not the major expenses.

17 Q What you're telling us is that you have a letter from the  
18 Anaconda Company that they won't need any more extra power,  
19 any additional power, for the next two years, and that they  
20 don't know after that; but that you estimate that after that  
21 they'll need more?

22 A No, sir. The letter did not say they would not need more  
23 power. They stated exactly what they would need through '77,  
24 and thereafter do not consider any growth other than minor  
25 amounts --

26 Q All right, but --

27 A No other -- no major additions.

28 Q But you have just testified that you did consider Anaconda

1 growth in '77-'78?

2 A Yes, sir.

3 Q So you considered Anaconda growth, although their letter told  
4 you --

5 A Sir --

6 Q -- that they didn't know?

7 A Sir, you are overemphasizing the Anaconda Company. Anaconda  
8 is just one of the many loads that we have --

9 Q Sir, I'm not overestimating them at all; I'm just talking  
10 about them. I don't know what their letter said. I haven't  
11 seen it, but you've told me that their letter says that they  
12 won't need any extra power, but the same amount, through '77  
13 and that after that they don't know; at least they tell you  
14 not to estimate any higher?

15 A It did not say the same amount through '77, sir. As I've  
16 said before, they gave us the amounts in '75-6, '76-7 and --  
17 that they would contract for.

18 Q Mr. Hofacker, can you supply me with a copy of that letter?

19 A I haven't got a copy of that letter, no, sir.

20 Q That's not what I asked you, Mr. Hofacker. You are Vice-  
21 President of the Montana Company. Can you supply me with a  
22 copy of the letter? You've testified about it here. I'd like  
23 to see what it says.

24 A Okay. We'll look for that, sir.

25 Q I take it that means yes?

26 A Yes, sir, as far as I'm concerned.

27 Q Thank you. The bar graph on Exhibit 6-C for the year '77-'78,  
28 the yellow bar graph is higher than the previous two. Is that

1 raise in that bar graph the basis of actual knowledge of sales  
2 you will have at that time, or is it an estimate of what you  
3 might have at that time?

4 A An estimate, sir. All these are estimates.

5 Q Well, I take it you would have more than estimates on the  
6 '75-'76 bar graph wouldn't you?

7 A It's still looking to the future, and any time you look to  
8 the future, it's an estimate. It has to be.

9 Q Well, you've told me --

10 A We have a base we start from.

11 Q And you told me you had a letter from the Anaconda Company  
12 telling you what they would need in that period --

13 A That's one portion of our load, yes, sir.

14 Q So, at least to that extent, it's more than an estimate,  
15 isn't it?

16 A Well, yes, sir, and we've got other contracts that are more  
17 than an estimate, too.

18 Q Now, I'm asking you if these other contracts that are more  
19 than an estimate show rises such as the -- of the magnitude  
20 that you've shown on Exhibit 6-C for the year '77-'78, or  
21 is that an estimate?

22 A That's an estimate, with our best judgment, sir.

23 Q O.K., now I presume that that one's of your best judgment, and  
24 not based on any factual purchase orders or letters; that all  
25 the rest of them to the right of that, all the way out to  
26 1985-'86, are similarly estimates, and not based on actual  
27 knowledge. Is that true?

28 A It's based on some bits of actual knowledge on which you make



1 your estimates, such as what appears to be population growth;  
2 what we have seen in the way of growths of such things as  
3 sewage disposal plants, environmental controls; but we don't  
4 have any hard, fast contract, but that's the way it's going  
5 to be.

6 Q Well, is it based on population growth for Montana? Is that  
7 what you're telling me?

8 A That's one of the many factors, sir with the --

9 Q Actually doesn't the yellow bar graph go up faster than  
10 the population growth estimates for Montana?

11 A Yes, because our use per customer has been growing, too.  
12 There's --

13 Q All right, you say your use per customer has been growing.  
14 Now, I'd like to refer you to the Montana Power's 1974 report  
15 to stockholders, and on page 12 of that document, you show  
16 a use per customer in 1973 of 6324 kilowatt hours, and for  
17 1974 of 6303 kilowatts per customer. Now, that's a decrease,  
18 isn't it, Mr. Hofacker?

19 A I believe that's total customers, or are you talking about  
20 residential customers?

21 Q No, that's residential customers. Will you agree with me  
22 that your annual report shows that, in fact, your residential  
23 customers' personal use has been decreasing rather than  
24 increasing?

25 A In that year, as many of our neighbors; and we think perhaps  
26 it was the conservation effort or, and the weather. From year  
27 to year the amount of energy consumed depends a lot on the  
28 weather.

1 Q Mr. Hofacker, I understand that, but I just don't think you  
2 should have it both ways. A moment ago, you were telling me  
3 that you based your forecasts on the fact that your customers  
4 were using more and here's your own annual statement showing  
5 that the last full year you had figures for, they used less.  
6 Isn't that true?

7 MR. BELLINGHAM: I would like to have Mr. Hofacker  
8 obtain the copy of the report in order to check it.

9 HEARING EXAMINER: Would you show him what report  
10 you are referring to, Mr. Graybill, please, so he can  
11 look at it.

12 (Complies)

13 Q Now if you'll look at the annual use per residential customer,  
14 the second or third item from the bottom there of your five-  
15 year summary, isn't it true that your residential customers'  
16 personal use has been dropping the last year?

17 A It dropped the last year, as I've said, and normalizing this  
18 it may not very -- very well have not been a drop because  
19 you look at the previous years; we can go to those and it  
20 grew every time until this year, truly. It may have been  
21 partially conservation; it may have been weather; we can find  
22 out, but I don't know what it was.

23 Q Well you and I could agree, though, couldn't we, that because  
24 of the energy crisis and all of the publicity, there is a  
25 difference in the game today, than four or five years ago,  
26 isn't there?

27 A Yes, sir. Yes, sir.

28 Q And, as you say, not only your company, but other companies

1 have been experiencing less -- that is declining or drop-off  
2 in customer use, haven't they?

3 A Yes, sir, and industry-wide we've been trying to get a good  
4 hold on that to see, in fact, what it really is going to be,  
5 and it's been pretty difficult.

6 Q Well, difficult as it may be, you don't seem to have taken  
7 that into account in estimating future loads, because you  
8 haven't shown any downtrend; you've continued to show an  
9 uptrend after 1977, haven't you?

10 A Yes, we have, sir.

11 Q So, all I'm saying is that the figures you show on Exhibit  
12 6-C, which you admit are estimates, and which you said were  
13 based in part on customer use, don't reflect what, in fact,  
14 your own company's records show were your own company's  
15 customers' use, between 1973 and '74, isn't that so?

16 A I wouldn't say they don't reflect that because I haven't  
17 looked at the normalized data for that year. They may very  
18 well -- normalizing would be a different picture. But that's  
19 actual metered sales that you're talking about.

20 Q Did you take that drop, between '73 and '74, in your customer  
21 use, into consideration when you prepared Exhibit 6-C?

22 A Yes, sir, because that was a new base we started on, in our  
23 estimates.

24 Q But, Mr. Hofacker, you just told me that the first bar graph  
25 there was higher than the one that would have been there if  
26 you'd gone a year the other way, and now you're telling me  
27 that you've used a base that was lower. Now which did you do,  
28 really?



1 A Will you restate that, sir? You have me confused, the way  
2 you said that. Let me --

3 Q Well, I hope I haven't confused you, but just a moment ago,  
4 or two or three answers ago, you told me that if we'd moved  
5 over into the '74-'75 period, we would have found the gold,  
6 or the yellow bar, shorter than the '75-'76 bar?

7 A Yes, sir.

8 Q In other words, there'd been a growth there. And then at  
9 the same time you and I have discovered that in fact, instead  
10 of a growth, there has been a decline in customer use, so  
11 surely that factor wouldn't have raised the bar, would it?

12 A Well, but that '74 -- '73-'74 use -- or '74 use in the report  
13 there, would have been part of the base in the '74-5 period.  
14 We would have started from a point like that, and now the  
15 '75-6, there's six months to go on it yet.

16 Q And now let's look for a minute at Exhibit 9-A, Mr. Hofacker.  
17 I see that Exhibit 9-A talks about average megawatts. What  
18 do you mean by average megawatts?

19 A That's energy, sir; what you use over a period of time. This,  
20 these are averaged by year. Each of the points on there is  
21 what the average use that year for the 8760 hours was this  
22 many megawatts.

23 Q Did you, before you prepared Exhibit 9-A, did you make a  
24 similar chart for peak use and for --

25 A No, sir.

26 Q -- gross sales?

27 A No, sir.

28 Q So you are not familiar, in your own mind --

1 A Well, this total loads incorporates gross sales, sir.

2 Q Well, it incorporates it only as an average, doesn't it?

3 A It takes the gross total sales for the year and divides by  
4 the hours in a year.

5 Q Well, I just don't understand what you mean when you say  
6 average megawatts. I'm sure that you don't mean that it's  
7 a middle-of-the-road megawatt.

8 A No, sir.

9 Q I trust you mean that it's the average number of megawatts  
10 that your customers use in a given year, is that what it  
11 is?

12 A If you will take, from that annual report, sir, and look at  
13 the total, or the billions of kilowatt hours that were sold,  
14 or produced, or generated, if there is a number in there, and  
15 divide that by --

16 Q I'd like you to find that for me because that's one of the  
17 problems I had with the report.

18 HEARING EXAMINER: You can stay in your seat  
19 and he will bring you the exhibit if he wants to  
20 inquire about it.

21 Q I didn't find any average megawatts in that report, so I  
22 didn't know what to tie to to check your exhibit here. Do  
23 you see anything?

24 A Well, I think that there's a statement in here as to the  
25 kilowatt hours generated, or sold in the year 1974, and I'm  
26 looking for that point in here. Sales of electricity in  
27 kilowatt hours for '74, 5,173,916, and you divide that by  
28 8760, and that gives you the average for it.

1 Q What's 8760, hours?

2 A That's right, 8760 hours in the average --

3 A Page --

4 A Right in the early, very early part of it; I think like  
5 page 1 or 2.

6 HEARING EXAMINER: Mr. Hofacker has indicated  
7 that on page 1 in Year At A Glance, second to last  
8 category, sales of electricity in kilowatt hours.

9 Q Have you compared 1975 with 1974 in sales of electricity  
10 kilowatt hours?

11 A Not personally, I have not compared it, no sir.

12 Q Do you have --

13 A I do know what our average was of 1975 over 1974; that's  
14 the way that I arrived at that 5.8 per cent growth, approxi-  
15 mately, in energy.

16 Q Surely you didn't arrive at that 5.8 on the one-year base,  
17 did you?

18 A Well, what happened this past year in energy sales.

19 Q That's what I'm asking.

20 A In base load -- In base load on when we took off the block;  
21 The block was, that's the Anaconda Company, essentially. Our  
22 base load grew from an average in 1974 of 461 for the base  
23 load to 488 in 1975 for the base load; which is a growth of  
24 5.86 per cent in '74 to '75, calendar years.

25 Q And did you project that one year growth rate on these Exhibits?

26 A What we did, we did not plot '75 average on here, because at  
27 the time this was prepared, we did not know what it is. Now  
28 this average I just gave you is what will be very close.



1 We haven't finalized and double-checked all the numbers,  
2 because it's so early in the year to determine where they  
3 actually happened in 1975. But, we did plot on there what it  
4 was in 1974. Now 1975 would have been some higher as I just  
5 indicated, by about 27 megawatts, on the base load, that is.

6 Q Now, what you're saying is that the Montana Power Company  
7 sold more power in 1975, than in '74 --

8 A Yes, sir.

9 Q -- by this 5. something percent?

10 A No, we sold more power to our base load customers, when we  
11 took off the Anaconda Company. This is our base load.

12 Q Well, what --

13 A One that is trendable, and Anaconda Company isn't necessarily  
14 so.

15 Q Well, now, wait a minute. Do I understand that you arrived  
16 at this trend by dropping Anaconda both before and after?  
17 Is that what you've done?

18 A Before and after? I don't know that I --

19 Q Well, you say not counting the Anaconda Company. Is that  
20 what you're saying?

21 A Our base load, sir, is the loads, as I testified last spring,  
22 is our total loads, less our block loads, which at this time  
23 is essentially the Anaconda Company, is the major portion --

24 Q Oh, all right.

25 A -- of our block loads, to get to a base load that has a trend,  
26 and that's what this, on this Exhibit 9-A, if you will refer  
27 to that, sir; that's what that base load is. That lower  
28 line is the base load and that's the one that has been

1           trendable for well over twenty years.

2   Q       You mean that you've prepared an Exhibit here, leaving out

3           the Anaconda's power --

4   A       No, sir.

5   Q       -- and haven't mentioned --

6   A       No, sir.

7   Q       -- that in the notes on the Exhibit?

8   A       Sir, we have, in the testimony that presented this, explained

9           it. Now, here's the total load, is the top line. Look at

10          that line A; the total load includes the Anaconda Company,

11          sir. The top shows the total, and here's the base load, is

12          the lower one. So our total load is on there.

13   Q       And why is the Anaconda's load not trendable?

14   A       Because of the way it's varied. It's, it's --

15   Q       Well, of course --

16   A       Other than some -- There's a portion of their load that you

17          can say is trendable; some of the basic, very basic load. But

18          there -- whether they put on a furnace, or take off a furnace,

19          or shut down the zinc plant; it's so big that we didn't want

20          that to cloud the issue, so we got back to the load that has

21          been trendable, and then to that we add what we then know,

22          when we make the forecast, that the Montana, or the Anaconda

23          Company has assured us they will want this much.

24   Q       What you really did, Mr. Hofacker, is you left out all the

25          downers, and you trended the uppers. Is that right?

26   A       No, sir. No, sir, we did not.

27   Q       I see. Why didn't you do that?

28   A       That wouldn't be indicating a trend at all.

1 Q Well, the biggest downer you had last year was that the  
2 Anaconda Company knocked off 44 megawatts, right?

3 A Well, sir --

4 Q Is that true, or not?

5 A That was it. That's right, but I'm going -- I went through  
6 this whole testimony --

7 Q So did we.

8 A -- and now we've arrived at what our load estimate would be.

9 Q And now I'd like to understand it, Mr. Hofacker, and that's  
10 why I'm asking questions about it. So after you found out  
11 that Anaconda knocked off 44 megawatts, you figured out a  
12 chart that didn't take that into effect, is that what you've  
13 done here?

14 A No, sir. We did not do that. That's what I said the first  
15 time.

16 Q Well, the base load doesn't take it into effect, does it?

17 A It wasn't part of the base load. We take off those loads  
18 that are unpredictable to get to the base load, and then  
19 when we project the base load, then we add on those loads,  
20 based on the best information that the Anaconda Company has,  
21 such as the letter they've given us now through the next  
22 three years.

23 Q Well, of course, you and I both know that there are all kinds  
24 of loads that are unpredictable and just some of them are  
25 bigger than others, but the big one you happened to drop out,  
26 is that right?

27 A Yes, sir, and as we get out the 25 years from now we may not  
28 because it's so small, compared to the rest of them.



1 Q Why don't we drop off Anaconda altogether, because maybe  
2 they're never going to come back? And then you've got  
3 plenty of capacity for several years, haven't you?

4 A Well, you might propose that, sir.

5 Q Why didn't you propose that?

6 A Because I don't think it's a realistic proposal.

7 Q So, in fact, you're going to trend them anyway, whether  
8 they're trendable or not, aren't you?

9 A We did not trend them, other than we took the loads, the base  
10 load, added on what they have contracted to pay us for, and  
11 that's what made the total load; and then we started from  
12 that point.

13 Q Does Anaconda represent all of the difference between base  
14 load line and total load line on Exhibit 9-A?

15 A As of this time it does. At one time, the Milwaukee load was  
16 in there; let's see, there's some -- I take it there's still --  
17 there's about seven megawatts of the Indian, U.S. Indian  
18 Service load that is up in this block; it's a flat load,  
19 there's no increase. So we take that out and put it in as  
20 just a flat number each year. We don't trend that one.

21 Q You don't trend anything that's level? You only trend things  
22 that are up, is that it?

23 A Sir, I did not say that.

24 Q Well, you just told me that there was a level load and that  
25 you didn't trend that level load.

26 A Sir, the contract states that we'll provide them seven mega-  
27 watts from now, forevermore.

28 Q Well, if you had that --

1 A So we don't -- you wouldn't trend that one; we set that one  
2 on the bottom. Here's a trendable load that has been grow-  
3 ing. Historically, it has been growing. We take that  
4 historical trend, then we add the seven megawatts each year;  
5 we don't increase that; and then we add whatever the Anaconda  
6 Company has told us they will -- to get to our total load.

7 Q It would seem to me that the only honest way to know what  
8 you're doing, is to take your total company needs every year,  
9 and trend them. If you start dropping out selective loads  
10 here and there, you can make the trend do anything you want,  
11 can't you, Mr. Hofacker?

12 A You could if that's what we, in fact, were doing; and that's  
13 not what we're doing, sir.

14 Q I hear you say that, but I don't see you doing that on  
15 Exhibit 9-A.

16 A Well, O.K. I -- You'll have to --

17 Q What other loads --

18 A -- doubt my veracity, then.

19 Q What other loads, besides the Anaconda load, did you drop  
20 out on Exhibit 9-A?

21 A We did not drop out any loads on Exhibit 9-A for the total  
22 load. They're all in on the total load, sir.

23 Q All right. Well, on the base load, what other loads did you  
24 drop out except --

25 A I just -- I think the only ones was the Anaconda and then  
26 that seven megawatts of the U.S. Indian Service. I believe  
27 those are the only ones.

28 Q And if they were added in, we would, in fact, then have

1 depressed the base load line, wouldn't we?

2 A The base load? Our definition of the base load, it would not  
3 have. The total load would have been depressed, as you can  
4 see that it is; the 1972-'73 is depressed, as it was in  
5 some other years.

6 Q By dropping out those two loads, we've then avoided trending  
7 a flat demand for those major companies in the last two or  
8 three years, is that right?

9 A There's only one that was a flat demand, sir. Only one, and  
10 that's this one by contract, U.S. Indian Service.

11 Q Well, as a --

12 A Its seven megawatts is all we're required to provide them.

13 Q As a matter of fact, Anaconda's is a dipping demand, isn't it?

14 A It was, but, uh, well, I'd better drop it until you get the  
15 letter, because I've gone over that too many times now, sir.

16 Q Well, I do understand Exhibit 9-A better now, and that is  
17 that what you call base load is just something you care to  
18 define as base load, and it's just the total load with some  
19 of the variables left out of it. Isn't that true?

20 A Sir, it is not as loosely put as you put it.

21 Q Well, let me ask you this; does the Montana Public Service  
22 Commission call base load what you call base load?

23 A I don't know if they have such a term, even, sir.

24 Q Is there something in the national electrical utility field  
25 that defines base load as the base load without the Anaconda  
26 Company in it?

27 A Sir, in forecasting, many people use this, trying to get that  
28 portion of their load that they can see a historical trend,



1       that you could forecast to the future. And that's all we are  
2       trying to do is honestly make a reliable forecast of the  
3       future, as best we could.

4   Q    If I understand the dots on 9-A for the base load, from 1970  
5       on, the base load is actually a downward curve. In other  
6       words, each of those dots is less of an increase than the  
7       year before, isn't that true?

8   A    Yes, however, if you take the '74 over '75, and we were to  
9       use that, it would be higher than that trend. As I told you,  
10      if we took just one year it --

11   Q    Well, you haven't got it on there, have you?

12   A    Sir, we didn't plot them because it hadn't been finalized at  
13      the time this was prepared.

14   Q    I'm just saying on the charts you'd have had a down curve.  
15      I'm --

16   A    Yes, sir.

17   Q    I haven't the other evidence before me.

18               HEARING EXAMINER: Do you have much more cross, Leo?

19               MR. GRAYBILL: Not much more. Just wait a minute,  
20      I'll be through.

21   Q    Neither have you charted the Anaconda's down curve for 1975,  
22      have you, because obviously theirs is going to drop, isn't it?

23   A    Sir, I said, "No, it was not." It's already dropped. That's  
24      what I was --

25   Q    Well, it had not dropped by January 1st, 1975, had it?

26   A    It certainly had.

27   Q    Well, then why --

28   A    It dropped last year.

1 Q Then, why is --

2 A By considerable.

3 Q If I read this chart correctly, the 1973 top line is lower  
4 than the 1974 top line. So, Anaconda, you've got --

5 A No.

6 Q -- represents the difference.

7 A No, the line is lower, but the difference from the base is  
8 greater.

9 Q Well. You have now testified to me that, if you put in a  
10 1975 dot, it would -- on the base line, it would be high.  
11 And I've asked you if you put in a 1975 dot on the total load  
12 line, because of Anaconda, if it wouldn't, in fact, be lower?

13 A It'd be some lower, yes sir.

14 Q All right. I think I understand the exhibit now, thank you.

15 MR. GRAYBILL: That's all.

16 HEARING EXAMINER: Let's take a 15 minute recess.

17

18 (RECESS AT 3:10 P.M.)

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1 Following a brief recess, the hearing reconvened at 3:35 P.M.  
2 on January 19, 1976.

3 HEARINGS EXAMINER: Mr. Meloy, you have some  
4 questions you wish to ask?

5 MR. MELOY: Yes, Mr. Davis, I have a few  
6 questions of Mr. Hofacker.

7  
8 CONTINUATION OF EXAMINATION OF ROGER A. HOFACKER

9 Cross on Written Statement

10 By Northern Cheyenne Tribe, Inc.

11 By Mr. Meloy:

12 Q Mr. Hofacker, did you participate in the update, if you will,  
13 of any exhibits other than the ones which are now called  
14 3-C through 10-A?

15 A No, sir.

16 Q Can you summarize why, very briefly, these exhibits all were  
17 updated?

18 A Because we've had another nine months experience and we're  
19 getting closer to the target and we thought, for accuracy of  
20 the exhibits, we should reflect the latest information we  
21 have.

22 Q I have handed you Applicants' Exhibit 12. Would you read  
23 the title of that exhibit?

24 A Relative Costs Colstrip to Hot Springs Railroad Coal Ship-  
25 ment versus 500 KV Transmission.

26 Q Did you prepare that study?

27 A I participated in the preparation, yes, sir.

28 Q Have there been, to your knowledge, variations in financing



1 data which you might have used now to change this exhibit?  
2 Interest rates on capital improvements, and so on?

3 A We tentatively looked at whether it was worth going through  
4 the revision of this, and when we compared this study, which  
5 has anticipated the '79-'80 schedule for the plants, to the  
6 initial study we made of the same nature for the '78-'79,  
7 the relationship between the two did not change. We could  
8 find nothing, in our judgment, that would significantly  
9 change the relationship if we moved it up another year again,  
10 so we did not do it.

11 Q Are you saying, then, that the construction costs of trans-  
12 mission lines -- new information relating to construction  
13 costs now that you might not have known about when you  
14 prepared this study, might lead you to change the cost per  
15 mile of constructing transmission lines?

16 A Yes, sir. But, the increased cost to the utility business,  
17 there certainly must have been increased cost to the railroad  
18 business that would be reflected in their cost, so this was  
19 our judgment.

20 Q But that was just a judgment you made and you didn't --

21 A Well, sir, it was based on comparing movement of a year from  
22 '78-'79 to '79-'80, and it did not change the relationship  
23 or very little in the way of savings -- the numbers got  
24 bigger is all. What I'm saying, there's no reason to think  
25 that one more year would have changed this any more.

26 Q But at the outset of my questioning you told me that you  
27 updated all of the other exhibits which you intended to  
28 comment on in your testimony to reflect new numbers which

1 you knew about now so that you could maintain an overall  
2 accuracy of this proceeding, of the testimony you're  
3 offering in this proceeding, yet you didn't change Exhibit  
4 12 and Exhibit 12 contemplates certain variables which  
5 you're telling me now, I take it, didn't change? Or, didn't  
6 change significantly?

7 A That's right, sir. It still is our study that every indi-  
8 cation would be the same relationship as far as which was  
9 the more economical. There was nothing to overturn that.

10 Q But we have nothing in this hearing to tell the Board that  
11 you did, in fact, make an examination of this, and that, as  
12 far as you're concerned, there are no other changes. We  
13 don't have any writing or anything of that nature, is that  
14 correct?

15 A No, sir, because we thought it was still a valid study, sir.  
16 It's an economic comparison with assumptions that are in it,  
17 escalation and otherwise, so that we figured the validity of  
18 it would not change.

19 Q It still takes a hundred and ninety nine thousand two hundred  
20 and sixteen dollars to construct a mile of transmission lines?

21 A I did not say that, sir.

22 Q It costs more than that?

23 A It may be different than that, yes, sir.

24 Q If it did cost more than that, would it change the total  
25 cost of building transmission lines?

26 A If it did, as I said, it would be costs that industry  
27 experienced -- steel, wood, whatever -- and the railroads  
28 would be faced with the same thing -- building railroad cars,

1 doing things with their railroad lines, that would be  
2 reflected in their freight rates. So, whatever escalation  
3 occurred in the country is affecting most industries about  
4 the same.

5 Q Does the hundred and ninety nine thousand two hundred and  
6 sixteen dollars include right of way acquisition?

7 A As I stated last spring several times, it does, sir. We  
8 went through that in detail.

9 Q Yes, I recall that. That leads me to my next question. I  
10 take it, because you didn't update that number, that you  
11 don't expect real property values to increase in that extra  
12 year?

13 A I did not say that, sir.

14 Q Do you think they will decrease?

15 A I didn't say that either.

16 Q Will they or will they not --

17 A They may change, sir, but we checked, as I said, the sensi-  
18 tivity of this, and the outcome of the study will not change.  
19 I stand on that statement.

20 Q What comparable provision might we expect to balance out the  
21 cost of shipping coal to the increased cost of the -- the  
22 increased value of the property?

23 A You mean what we would pay in the way of obtaining right of  
24 way?

25 Q Yes.

26 A I don't recall the number exactly, but at one time we looked  
27 at it, it was in the millions.

28 Q My question was, you decided not to update Exhibit 12 because



1 the same sorts of increases that you would have anticipated  
2 to occur in transmission line construction, there are com-  
3 parable increases in rail transportation? And, I cited to  
4 you an example of a cost, I assume, of building a transmission  
5 line, which is acquisition of right of way. My question is,  
6 what comparable increase might we expect the rail industry  
7 to have to absorb which makes your comparison, then, a viable  
8 one?

9 A Unless they had to acquire more property there wouldn't be  
10 a comparable one.

11 Q Do you expect them to have to acquire more property?

12 A I don't know that they would. I don't think they anticipated  
13 they would. They would upgrade their system to handle a  
14 heavier traffic, but I don't know that they would be required  
15 to acquire more, other than sidings and so forth to take  
16 care of loading at some plant site -- acquisition of prop-  
17 erty in that area.

18 Q Does the figure per mile include attorneys' fees for acquiring  
19 the right of way?

20 A Yes, sir, it was what our right of way legal people esti-  
21 mated the right of way to cost us, and that cost is the  
22 legal fees, too, sir.

23 Q Did you inquire of your legal staff whether those would be  
24 increased in a year's difference of time?

25 A They may very well.

26 Q Well, did you ask them that question?

27 A I don't recall asking that specific question. I recall the  
28 question being asked, what does it look like our right of

1 way is going to cost us now? I don't remember the specific  
2 number. It would be going up. But, as I say, when we  
3 checked -- and I can't remember the number exactly, but at  
4 that time the sensitivity of the right of way acquisition,  
5 it would have to go up many millions of dollars over what we  
6 had put in here to approach making the two of them break  
7 even.

8 Q But you didn't prepare anything in writing which is in  
9 evidence or will be placed in evidence before this Board to  
10 show that Exhibit 12 is as valid on April 1st, 1975 as it is  
11 on January 19th, 1976?

12 A Why would we? If we've made no revision, wouldn't that be  
13 the natural assumption?

14 Q It would be the natural assumption, Mr. Hofacker, but if I  
15 get it, you're telling me that you didn't make any changes  
16 because you assumed that the comparison would be the same?  
17 Is that right?

18 A The economics of the two would be the same, yes.

19 Q But I've cited you some costs which, in one case, you didn't  
20 tell me a comparable one, in the shipping industry, and  
21 secondly, I cited you a cost which you didn't even inquire  
22 about of your legal staff to determine whether that had  
23 increased.

24 A Well, sir, in a two hundred and fifty million dollar project,  
25 some of those costs you're referring to are a mighty, mighty  
26 small percentage, so that the outcome is not nearly as  
27 sensitive to that as to some other things.

28 Q Yes, well in my poor lay mind I can only think of a few items

1 -- construction items -- to ask you about. Unfortunately,  
2 you didn't detail them in this exhibit, and I can't inquire  
3 of any more, how you came with that figure now, as I could  
4 try to determine why you didn't revise it?

5 A Well, sir, as far as this study, my transcript with Mr.  
6 Shenker's cross-examination, went in great detail as to where  
7 all these numbers came from and how we justified them. And,  
8 we're looking to the future, sir, and who's to say whether  
9 this escalation is correct. We tried to be conservative in  
10 every way. Now, maybe, the escalation that we use in here  
11 is different than this; maybe we under-escalated for the  
12 freight rates; we went real conservative on that compared to  
13 experience. So, when you're looking at the future, that's  
14 the reason we think that this is just as valid now as it was  
15 then.

16 Q But we've had nine months worth of experience, Mr. Hofacker,  
17 and you have not changed this exhibit one iota.

18 A We have not because the outcome is the same, sir.

19 Q You're saying that increased costs of -- that the costs of  
20 building the transmission lines have been increased, or  
21 decreased, you don't know that?

22 A Well, I would presume they may have been increased. I would  
23 have to check what escalation we put in and what we've  
24 experienced.

25 Q You also assumed that the costs of shipping coal have also  
26 increased?

27 A Have they not?

28 Q I'm asking you that, sir. You made the assumption that --



1 A Well, sir, the history of coal freight rates, and that we  
2 personally experienced, as in my testimony last spring, was  
3 at a considerably higher rate than what we put in here for  
4 the increase in freight rates as we go out through the years.

5 Q You knew that and you didn't revise Exhibit 12?

6 A Sir, I said this exhibit was that. Maybe I didn't state  
7 myself clearly. I said, as in my testimony, and the backup  
8 for this study here, we used an escalation, I believe, on  
9 the freight rate of some three percent, which is at well over  
10 four percent -- or, the experience had been well over four  
11 percent and, I believe, at our Corette Plant, had been well  
12 over six percent over a period of some six years, and we  
13 used only three as far as freight rates. For that reason I  
14 think that we were conservative on that side so that this  
15 outcome will -- or one of the reasons that the outcome will  
16 not change.

17 Q Let me ask you one last time, have the numbers changed since  
18 this exhibit was prepared?

19 A I'm certain the specific numbers have changed but the  
20 relative relationships of the two propositions have not  
21 changed. That's our best judgment and that's what I'll have  
22 to stand on.

23 Q Do you think that the Board of Natural Resources should, as  
24 one of its top priorities, make a determination on the  
25 question of shipping coal versus shipping electricity by  
26 transmission lines?

27 A This is one of the things that has to enter into their  
28 decision, yes, sir.

1 Q Do you think it's an important one or a minor one?

2 A Well, I think it's a significant one, yes, sir.

3 Q But you didn't change this exhibit?

4 A No, sir, for the reasons I stated several times.

5 MR. MELOY: I have no further questions, Mr. Davis.

6 HEARINGS EXAMINER: Redirect, Mr. Bellingham?

7  
8 Redirect on Written Statement

9 By Applicants

10 By Mr. Bellingham:

11 Q Mr. Hofacker, earlier today you were asked questions regarding  
12 the financing of Colstrip Units 3 and 4. Do you recall that?

13 A Yes, sir.

14 Q And among the questions asked you was whether or not there  
15 was a possibility that financing problems may have had  
16 something to do with the decision to delay 3 and 4 along the  
17 line, do you recall that?

18 A Yes, sir.

19 Q And, as I recall, you indicated what you thought the reasons  
20 for the delay were, and separated the two delays down into  
21 two separate categories, am I correct in that?

22 A Yes, sir.

23 Q One category was a delay from 1978 and '79 to '79 and 1980,  
24 do you recall that?

25 A Yes, sir.

26 Q What was your reason for that?

27 A The time required for the Department of Natural Resources to  
28 make their analysis.

1 Q And the second category was the delay from 1979 and 1980 to  
2 1980 and 1981, isn't that right?

3 A Yes, sir.

4 Q And what was your reason for that?

5 A The length of these hearings.

6 Q Now, do you have an opinion as to whether or not financing  
7 problems contributed at all in the decisions to delay 3 and  
8 4 that you have testified?

9 A To my knowledge there were none.

10 Q Taking up Montana Power specifically, do you have an opinion  
11 relative to financing and delay?

12 A Yes, sir.

13 Q What is that opinion?

14 A That financing didn't have anything to do with it.

15 Q Now, as far as the other four applicant companies, do you  
16 have an opinion relative to financing having anything to do  
17 with delay?

18 A I have no opinion. I know of no financing reasons personally.

19 Q I think you testified previously to Buffalo Rapids. Do you  
20 recall that?

21 A Yes, sir.

22 Q And what is Buffalo Rapids?

23 A It's up the rapids two and four, our two rapids on the south  
24 fork of the Flathead below our Kerr Dam that we had proposed,  
25 or made an application to the Federal Power Commission in  
26 conjunction with the Indians in the Flathead Reservation, to  
27 construct a hydroelectric plant, two of them.

28 Q How long has this been going on?



1 A Oh, gosh, I think it's close to twenty years they've been  
2 looking at Buffalo Rapids.

3 Q And I think Mr. Shenker asked you whether or not you know  
4 that the pending application before the commission had been  
5 dismissed?

6 A It had? I stated that I did know. I saw the notice.

7 Q It has been dismissed?

8 A It has, sir.

9 Q What was the reason for that?

10 A Inactivity on the application.

11 Q Now, then, can that application be reapplied for at any time  
12 in the future?

13 A Yes, sir.

14 Q In the event that you desire to continue the Buffalo Rapids  
15 complex, or work on it -- the hydro plants that you've  
16 testified to, you can refile an application?

17 A Yes, sir.

18 Q Now, what is the reason for the inactivity relative to the  
19 application that previously was dismissed?

20 A Failure to reach an agreement with the Indians.

21 Q And how long has that been going on?

22 A Oh, I think there's been negotiations with the Indians for,  
23 it must be ten years now.

24 Q You have not been able to come to any terms with the Indians?

25 A We have not.

26 Q Is it necessary that you come to an agreement with the  
27 Indians before any action will be taken regarding an  
28 application relative to the plant?

1 A They will certainly be a strong participant in any applica-  
2 tion; and a joint application there had to be then. Now if  
3 we were to attempt to file it on our own, without them, they  
4 would still be a strong contender in there as to whether we  
5 got the permit or not.

6 Q Do you recall you previously testified upon cross-examination  
7 relative to thermal units availability as having been changed  
8 to seventy five percent?

9 A Yes, sir. For the larger units.

10 Q That would include Units 3 and 4?

11 A Yes, sir.

12 Q Now, what goes into a decision as far as availability  
13 regarding that figure?

14 A Industry experience as to the availability of those units  
15 and the time down for maintenance as well as forced outages.

16 Q What it amounts to is that industry experience indicates  
17 that you could not run a unit such as 3 and 4 a hundred  
18 percent of the time?

19 A No. Because, first off, you've got to maintain them and  
20 that means you have to shut them down to maintain them.

21 Q And the other category of considerations that affect a figure  
22 such as this was forced outages?

23 A That's right.

24 Q And what do you mean by that?

25 A Oh, failures or something, some system within the plant that  
26 shuts you down for some reason or other. They're a real  
27 complicated beast.

28 Q You were asked the question as to the reasons in comparing

1 Exhibit 6, which has been superseded by Exhibit 6-B as to  
2 why the Byrd Plant was shown on Exhibit 6 as sixty four  
3 megawatts during the entire period of time covered by that  
4 particular exhibit, whereas Applicants' Exhibit Number B  
5 showed a Byrd as having or carrying sixty megawatts. Do  
6 you recall that?

7 A Yes, sir.

8 Q And at that time you were not sure. Have you done anything  
9 since that question was put to you to discover what the  
10 reason for the apparent discrepancy is?

11 A Yes, sir.

12 Q And what is the reason?

13 A The reason is, the net availability of Byrd is only sixty  
14 megawatts. On Exhibit 6, the sixty four results in sixty  
15 because in the line of reserves there are four megawatts for  
16 Byrd included in that thirty megawatts of reserves. On 6-B  
17 it's all ground in together in the less maintenance and  
18 availability and so forth, on the 6-B, so that then our  
19 sixty contribution is the same. The sixty four minus the  
20 four in the 6 is equivalent to the sixty in here.

21 Q Now, then, do you recall that you were asked on cross-exam-  
22 ination general questions relative to the problems associated  
23 with moving coal to load centers as distinguished from  
24 moving electricity to load centers? Do you recall that?

25 A Yes, sir.

26 Q Assuming that 3 and 4, for one reason or another, will never  
27 be built, in your opinion is there now time to build similar  
28 type units at load centers presumably in the Pacific North-



1 west which would meet your, and I say your, Montana Power's  
2 needs during the critical periods that you have previously  
3 testified to?

4 A No, sir, it would not.

5 Q Why do you say that?

6 A Well, just using the guidelines that have been put out by  
7 the west group forecast would indicate that it's probably  
8 seven years or longer, depending upon the length of hearing  
9 permits to get the unit on. It could be as much as nine or  
10 ten years as it is in this state.

11 Q Now, then, you were asked questions by Mr. Graybill regarding  
12 the Federal Energy Administration's sending a team out into  
13 this area and into the Pacific Northwest and finally coming  
14 up with reasons why power units were being delayed. Do you  
15 recall that line of questioning?

16 A Yes, sir.

17 Q And I think three reasons were given. Do you recall that?

18 A Yes, sir.

19 Q One of the reasons, without pinpointing any particular unit,  
20 as I understand it, was financial. In your opinion, does  
21 this apply to 3 and 4?

22 A Not to my knowledge, sir.

23 Q A second reason was uncertainty as to future demand loads of  
24 electricity. Do you believe this particular reason accounts  
25 for the delay in 3 and 4?

26 A I do not, sir.

27 Q Another reason was because of the federal and state regula-  
28 tory decisions and time involved in them. Do you believe

1 that?

2 A That's a very material factor.

3 Q I think Mr. Graybill took the 1974 Montana Power Company  
4 report to shareholders, which is Applicants' Exhibit 115-A,  
5 and called your attention to page 12 on that, to the effect  
6 that in 1973, you had a kilowatt use per customer of six  
7 three two four, whereas in 1974 you had a kilowatt use per  
8 customer of six three oh three kilowatts. Do you recall that?

9 A Yes, sir.

10 Q I now hand you Applicants' Exhibit 115-A and ask you to check  
11 and see what class of customers are those particular figures  
12 referred to?

13 A Residential customers.

14 Q Was it restricted to residential customers?

15 A Yes, sir.

16 Q Did it include, for example, any of your commercial customers?

17 A No, sir.

18 Q Did it include any industrial customers?

19 A No, sir.

20 MR. BELLINGHAM: I have no further questions.

21 HEARINGS EXAMINER: Re-cross, Mr. Shenker?

22  
23 Re-cross on Written Statement

24 By Department of Natural Resources and Conservation

25 By Mr. Shenker:

26 Q The first question which Mr. Bellingham asked of you, Mr.  
27 Hofacker, on his redirect examination was with respect to  
28 financing problems as a cause for delay of these units.

1 Don't you have a sneaking suspicion, Mr. Hofacker, that that  
2 may have been relevant to the decisions of your sister  
3 utilities that are sister applicants, indeed, in this pro-  
4 ceeding for the delay of their units?

5 A I do not -- not one of the participants ever conveyed that  
6 impression to me, sir.

7 Q Do you read the newspapers?

8 A Oh, I read newspapers, yes, sir.

9 Q Have you seen that attributed to presidents of companies in  
10 newspapers?

11 A Yes, sir. I mean, in the industry, yes, sir.

12 Q For example, Pacific Power and Light Company: Don Frisbee  
13 was quoted as saying that there were indeed reasons for  
14 delaying the Jim Bridger unit; one was financing; another  
15 one was decreased load growth?

16 A Yes, sir.

17 Q Yes, okay. And as far as this particular application is  
18 concerned, Mr. Hofacker, you know, don't you, that on  
19 September 10th, 1974 Charles Hochgesang, the engineering  
20 supervisor of the Bechtel Corporation recorded by memorandum  
21 his telephone conversation with Bob Labrie that the applicants  
22 believed that they would have to slow the schedule, that they  
23 would have to slip the schedule because of financing problems?  
24 Now you know of that, don't you, sir?

25 A I did not know of it until I heard you mention it last  
26 spring, sir. And, I've not discussed it with Hochgesang  
27 since. But, I didn't know until then.

28 Q Have you looked at the memo?



1 A I don't think I have.

2 Q It's an exhibit in this proceeding, sir.

3 A I don't think I looked at it.

4 Q And I understand your testimony to Mr. Bellingham to be that  
5 you really don't know the extent to which, if at all,  
6 financing problems have affected the decisions of others of  
7 the applicants besides the Montana Power Company to slow  
8 their schedules in wherever the plants are?

9 A I cannot testify to financing problems slowing Colstrip 3  
10 and 4, sir.

11 Q Because you don't know?

12 A I don't know, sir.

13 Q You can neither deny or affirm, as the saying goes?

14 A I have no knowledge of it.

15 Q Now let's talk about Buffalo Rapids a little bit. The Indian  
16 tribe necessary to agree to the Buffalo Rapids project as  
17 you had conceived the application is the Consolidated Tribe  
18 of the Salish-Kootenai, is that right?

19 A Yes, sir.

20 Q Is it not the case, Mr. Hofacker, that the proposed trans-  
21 mission line to run five hundred KV from Colstrip to Hot  
22 Springs will traverse the Flathead Reservation and the  
23 Salish-Kootenai Tribe?

24 A Our preferred route would, yes, sir.

25 Q Do you have their permission for that?

26 A No, sir. We have gone to none of them until we know we've  
27 -- whether we're going to have a permit or not.

28 Q But with the Federal Power Commission you haven't adopted

1 that procedure. You've decided in the case of the Federal  
2 Power Commission to allow that application to die for  
3 inactivity rather pursue it to the point of obtaining a  
4 permission conditioned upon obtaining Indian permission?

5 A No, sir. We have made efforts that FPC would not let it  
6 retire. I think within months of this report there were  
7 efforts to not let it die.

8 Q The efforts have not been sufficient to prevent the appli-  
9 cation from being dismissed for inactivity, isn't that right?

10 A That's right. There were no results.

11 Q The fact is, is it not, Mr. Hofacker, that even today there  
12 is continuing negotiation with the Salish-Kootenai Tribe  
13 on their desire to own the Kerr Dam, or Kerr hydro project,  
14 and their desire to own the Buffalo Rapids project in return  
15 for their giving you permission to traverse their land and  
16 property, isn't that right?

17 A This is one of the aspects of the negotiations, yes, sir.

18 Q And tied into that very negotiation is their standing aloof  
19 from the Colstrip proceeding in which they tendered their  
20 appearance, isn't that true?

21 A I don't know whether I can reply to that question.

22 Q Well is it not true, Mr. Hofacker, that you have exacted at  
23 least that much of consideration from the Salish-Kootenai  
24 Tribe, that they are not here today in this proceeding telling  
25 the fact that they have not given you permission to cross  
26 their lands with the proposed transmission lines?

27 A I have no knowledge of such activity.

28 Q But you do agree with me that those Indians do, in fact, own

1 the lands and do, in fact, have to give you permission before  
2 you can traverse those lands with the transmission lines  
3 that you propose to erect?

4 A As I said before, yes, sir.

5 Q Next, Mr. Bellingham asked you with respect to the seventy  
6 five percent load factor. Would you look again with me,  
7 Mr. Hofacker, at your Exhibit 7-B?

8 A Yes, sir.

9 Q Now where does the seventy five percent load factor appear  
10 on Exhibit 7-B?

11 A It's a result of taking the less reserves from the capabil-  
12 ities above, and that's all -- for instance, take out an  
13 eighty five eighty six, the one hundred and seventy six --

14 Q Yes.

15 A Wait a minute. This is peak. No, no, we have to look to  
16 the energy to get availability.

17 Q Okay. Let's look at Exhibit 8-B then?

18 A Now, using that same year, '85-'86, you would reduce the  
19 steam capability by a hundred and eighty one megawatts.  
20 That's what that means is the maintenance and availability  
21 adjustment. The full capability is above, minus the one  
22 eighty one below. Now that's seventy five percent on Colstrip  
23 3 and 4 and it's eighty five on the Byrd and the two Corette  
24 units, as the numbers are applied anyway.

25 Q If we can agree upon the arithmetic here and see if I under-  
26 stand you correctly, what you're telling us is that with a  
27 load factor of seventy five percent on two hundred and ten  
28 megawatts, which is Colstrip 3 or 4, as listed in 1985 and



1 1986 --

2 A Yes, sir.

3 Q -- you would take twenty five percent of two hundred and ten  
4 megawatts, or fifty two and a half megawatts, and you would  
5 put that in the column labeled less maintenance and availa-  
6 bility adjustments?

7 A Yes, sir.

8 Q All right. Now, if you were still running the eighty five  
9 percent load factor which we discussed when you were here  
10 last year, then the process would be that you would take  
11 fifteen percent of two hundred and ten megawatts, right?

12 A Yes, sir.

13 Q The difference, then, would be five point two five megawatts,  
14 so that instead of subtracting fifty two point five megawatts,  
15 you'd be subtracting forty seven point two five megawatts as  
16 part of your less availability adjustment, right?

17 A I didn't check your arithmetic. I think you may be a little  
18 bit high.

19 Q Could be.

20 A I think it would be thirty one and a half, wouldn't it?

21 Q I agree with you. It'd be thirty one point five instead of  
22 fifty two point five?

23 A Right, sir.

24 Q Right. The difference would be twenty one point two five  
25 megawatts?

26 A Yes, sir.

27 Q And then, without changing your actual resources or load,  
28 what you have done by shifting from an eighty five percent

1 to a seventy five percent load factor, is to take twenty  
2 one point two five megawatts out of your available resource  
3 to meet your load in 1985, right?

4 A Yes, sir, because we were convinced we were over-optimistic  
5 as to the availability of energy from these units, industry-  
6 wide.

7 Q Right. And now, do you know, Mr. Hofacker, of any thermal  
8 units that achieve an eighty five percent load factor?

9 A In this category I don't know of any, sir. There might be.

10 Q What do you achieve at Corette?

11 A That's not this size, sir.

12 Q I know.

13 A It's another category.

14 Q What do you achieve at Corette?

15 A Well, Corette has not been base load, a base load plant, per  
16 se, so your availability is different than what you've  
17 actually run the plant. Availability is how the -- is the  
18 amount that it would be available to you for supplying load  
19 if that load, in fact, was demanding it.

20 Q Let me put it to you slightly differently, Mr. Hofacker. It  
21 is the case, is it not, that if you had designed the Colstrip  
22 units so that you would have a load factor of eighty five  
23 percent, even though that's above what other units are able  
24 to do in this country, you'd be saving ten percent of the  
25 capacity of those units, wouldn't you?

26 A And we would have been most happy to put the dollars in to  
27 do that, and it just is not accomplished at this time in the  
28 technology.

1 Q For two reasons I put it to you, Mr. Hofacker. One is that  
2 units of that size make it difficult to do that, and  
3 secondly is that you're dealing with plants that have already  
4 reached the stage of planned obsolescence, isn't that true?

5 A I don't believe the second one's true, sir.

6 Q But you'd concede the first, that with smaller sized units,  
7 you can achieve a higher load factor?

8 A Because they've been in service a longer period of time.

9 Q Now I want to take a look at the last item that Mr.  
10 Bellingham was exploring with you just before you got into  
11 the rereading of the Montana Power Company annual statement.  
12 He was asking you for your opinion, Mr. Hofacker, of whether  
13 it was possible to build electric generating stations near  
14 load centers which, in turn, would provide resources avail-  
15 able to the Montana Power Company. Your answer was, no,  
16 it was not possible.

17 A Time-wise.

18 Q Now what he was really talking about, if you will look with  
19 me at Exhibits 6-B and 5-B, was the ability to provide  
20 seventy one megawatts of energy for the Montana Power  
21 Company or nine megawatts of peak for the Montana Power  
22 Company. Now, that's what you don't have time to do, right?

23 A Nor for the next year, the hundred and twenty one versus the  
24 sixty five.

25 Q Oh, you'd be able to meet the 1982-83 year, wouldn't you?

26 A In six years? I have serious doubt if you have to start from  
27 scratch somewhere.

28 Q Today is January 19th. We'd be talking about July 1 of 1982.



1 You'd be talking about six years and six months. You don't  
2 think you could do it?

3 A Pardon?

4 Q You don't think you could do it in six years and six months?

5 A You could if you had a site and your application for a  
6 permit already.

7 Q Well, let's see what we're talking about then, Mr. Hofacker.  
8 We're talking about peak of nine megawatts. Now, don't you  
9 think that there exists some place near a load center an  
10 electric generating station nearing the commencement of  
11 construction where you could buy in for nine megawatts?

12 A Well, I can't deny that, but I also said we can't make the  
13 '82-'83 period either, and that's considerably more than  
14 nine megawatts.

15 Q Okay, then let's look at --

16 A And it's energy that's what we need.

17 Q -- the figure here for 1982-83. That's sixty five megawatts.

18 A But we need a hundred and twenty one megawatts of energy and  
19 that's far more critical, sir.

20 Q All right. Let's take them individually, then, Mr. Hofacker.  
21 What is the share of the smallest participant in the Colstrip  
22 units?

23 A Ten percent.

24 Q Ten percent is a hundred and forty megawatts for the proposed  
25 Colstrip units 3 and 4, right?

26 A Gross, yes, sir.

27 Q And you know, of course, that in the negotiations that went  
28 on among the, first the four participants, and then the five,

1 including Pacific Power and Light Company, the last one to  
2 join, there were questions back and forth as to who would  
3 take maybe fifty percent, or forty percent, or thirty five  
4 percent, until you finally came out with the final figures,  
5 right?

6 A Yes, sir.

7 Q Now Mr.Hofacker, a shift of less than ten percent for units  
8 of that size was something that was talked about on the  
9 casual drafting board among partners to this project. Are  
10 you trying to have this board believe that there is no  
11 opportunity to shift with an existing planned construction  
12 so that you could have participation in other construction  
13 of generating stations?

14 A But you're shifting in a deficit area to start with, and all  
15 you do is make somebody else's deficit that much worse.

16 Q Well, if that were true everywhere, Mr.Hofacker, then why  
17 would it be true that some of your sister applicants are  
18 deferring the plans which they had intended to meet for  
19 deficits?

20 A They follow this period. They're later than this period of  
21 time we're talking for Colstrip 3 and 4.

22 Q You see, but I don't quite understand, Mr. Hofacker. Why is  
23 it that the folks in Wyoming get to defer the Jim Bridger  
24 plant, and folks in Oregon get to defer the Pebble Springs  
25 plant or the Carty plant, and the folks in Washington get  
26 to defer the Skagit plant, but the folks in Montana can't  
27 defer the Colstrip plants, I don't understand that?

28 A I'm not sure that they've deferred those plants of their own

1 volition. I'm not privy to that information. Maybe they  
2 had no other choice. All of those plants were coming on  
3 after Colstrip 3 and 4 were planned to be on, or hoped to  
4 be on. And so this just adds to the deficit.

5 Q Only in Montana there's no choice on the part of the  
6 applicants. They have to persist and they have to attain  
7 their schedule, is that your testimony?

8 A I didn't say only in Montana, sir. But you're talking about  
9 a deficit area.

10 Q Was the Board of Natural Resources and Conservation of the  
11 State of Montana asked to consult on the decision to defer  
12 the Jim Bridger plant?

13 A Why would they?

14 Q The Skagit plant?

15 A Why would they?

16 Q Pebble Creek? Pebble Springs?

17 A Not to my knowledge.

18 MR. SHENKER: I have no further questions. Thank  
19 you.

20 HEARINGS EXAMINER: Mr. Meloy?

21 MR. MELOY: I have no re-cross examination, Mr.  
22 Davis.

23 HEARINGS EXAMINER: Mr. Bellingham?

24 MR. BELLINGHAM: No questions.

25 HEARINGS EXAMINER: Call your next witness.

26 MR. GRAYBILL: Mr. Hearings Examiner, I have one  
27 question on redirect.

28 HEARINGS EXAMINER: Oh, where were you?



1 MR. GRAYBILL: I was listening to you. I knew you  
2 were just about done.

3 HEARINGS EXAMINER: All right, Mr. Graybill.

4  
5 Re-Cross on Written Statement

6 By Northern Plains Resource Council

7 By Mr. Graybill:

8 Q Mr. Hofacker, Mr. Bellingham had you re-testify that the  
9 customers of the Montana Power who had less use during the  
10 year 1973-74 were the residential customers. Do you  
11 remember that?

12 A Less average use per customer.

13 Q Less average use per customer?

14 A Yes, sir.

15 Q And he asked if that covered the industrial customers and  
16 you said it didn't, right?

17 A No, sir. Yes, I said it didn't.

18 Q Now let's talk about the year 1974-75. Is the Anaconda  
19 Company an industrial customer?

20 A They're a category of industrial customer. We have a lot  
21 of small industrials that we group, and Anaconda is by  
22 itself, yes, sir.

23 Q Well, if you consider Anaconda an industrial customer, do you  
24 have an opinion as to whether or not the average use of  
25 industrial customers went up or went down in 1974-75?

26 A I don't know about '75 yet, sir. You're talking '73-4 as to  
27 what was in that report, was it not?

28 Q Yes.

1 A And I don't know what '75's use is. As I mentioned before,  
2 we don't know for sure. We know the base load; we think we  
3 know what the base load is at the moment, and it went up and  
4 that included all of the small industrial customers, all of  
5 the industrial customers, essentially, other than Anaconda.

6 Q Yes, and I think you showed me on Exhibit Number 9-C, I  
7 believe it is, that Anaconda is almost twenty percent of  
8 that load, isn't that right?

9 A Energy-wise, I think that's right, yes. I can look here.

10 Q And you do know that Anaconda dropped forty four megawatts  
11 in 1975, isn't that right?

12 A Yes, sir.

13 Q Now, based on that knowledge, do you have an opinion as to  
14 whether your total industrial customers' average use went  
15 up or down in 1975?

16 A I have no opinion. I'd have to look at the numbers, sir.

17 Q You do have an opinion?

18 A I do not have an opinion. I'd have to look at the numbers  
19 to find out. They might have gone down. I don't know  
20 whether the forty four is spread over the whole industrial  
21 -- other industrial would have showed that the average use  
22 was less or not. I'd have to look at the numbers.

23 Q But it is -- so you really don't know that the industrial use  
24 average did not also drop last year, do you?

25 A I do not know and I didn't state that I did, sir.

26 MR. GRAYBILL: All right. That's all. I'd just  
27 like to remind you that I'm looking for that one  
28 Anaconda letter.

1 HEARINGS EXAMINER: Mr. Bellingham, redirect as  
2 to that?

3 MR. BELLINGHAM: No further questions, sir.

4 HEARINGS EXAMINER: At this time let the record  
5 show that Applicants' Exhibits 3-C, 3-D, 3-E, 4-C, 4-D,  
6 4-E will be admitted subject to connecting up by other  
7 testimony. You're going to call witnesses, are you not?

8 MR. BELLINGHAM: Yes, sir.

9 HEARINGS EXAMINER: Applicants' Exhibit 5-B and  
10 5-C, 6-B and 6-C, 7-B and 7-C, 8-B and 8-C, 9-A and  
11 10-A are admitted. Gentlemen, does anyone have Exhibit  
12 115-A?

13 MR. BELLINGHAM: I have it, sir.

14 HEARINGS EXAMINER: Okay. I would appreciate if  
15 everybody'd try to be sure these get back in the box  
16 so we can keep track of them, and, of course, there's  
17 Exhibit 9 from the first hearing. Mr. Bellingham, I  
18 guess you and Arden can touch bases on that and see if  
19 you have a copy that's all right. Very well.

20  
21 ROBERT LABRIE, called as a witness by the Applicants, having been  
22 first duly sworn upon his oath, both as to his written direct  
23 testimony and as to the oral testimony to follow, was examined  
24 and testified as follows:

25  
26 MR. BELLINGHAM: At this time, we'll turn over to  
27 the Department a statement of testimony, Robert Labrie,  
28 on behalf of the Applicants, and we'll offer into



1 evidence the exhibits testified to in the prepared  
2 statement of testimony; that would be Exhibits 14, 15  
3 (revised), 16, 17 (revised), and 17-A (revised).  
4

5 ( THE WRITTEN DIRECT TESTIMONY OF MR. ROBERT LABRIE WAS  
6 DIRECTED TO BE INSERTED AT THIS POINT. )  
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1 STATEMENT OF TESTIMONY OF ROBERT LABRIE

2  
3 My name is Robert Labrie and I am presently chief engineer  
4 of The Montana Power Company. Prior to my becoming chief engineer  
5 in January, 1975, I held the position of assistant chief engineer  
6 in charge of electric power generation. Because some of my testi-  
7 mony will cover the planning field, I should mention that I also  
8 supervised the planning section of the engineering department from  
9 1969 to 1975. I previously testified in this case in the Board of  
10 Health hearing at which time my background and qualifications were  
11 stated.

12 The site selection for Colstrip Units 3 and 4 is really closely  
13 connected with the prior decision to build Colstrip Units 1 and 2  
14 at the Colstrip site. It is accordingly necessary to review the  
15 reasons for the selection of the present Colstrip site at the  
16 beginning in order to understand the reasons for the selection of  
17 this site also for Units 3 and 4.

18 Montana Power completed its J. E. Corette Billings steam plant  
19 in the fall of 1968. However, we had begun to plan for an addi-  
20 tional unit at this site in May of 1967 because our load growth  
21 projections indicated the need for a similar unit in about the  
22 year of 1974. By the fall of 1969 we had placed an order for an  
23 additional 180 megawatt turbine generator and boiler. However, we  
24 were having difficulty in obtaining the required performance from  
25 our air pollution control equipment at the Corette plant. Inciden-  
26 tally, it took about another year to clear up this difficulty.  
27 Because of this and the fact that there was some opposition to our  
28 installing another plant at Billings, in January of 1970 the Montana

1 Power management decided it was not appropriate to locate another  
2 unit at the Billings site at that time and that we should study  
3 the feasibility of a new site. This also implied a new size unit  
4 and a new time frame and various studies were prepared by us  
5 covering these various factors.

6 Applicants' Exhibit No. 14 is a map showing possible loca-  
7 tions of generating plants which were considered. The exhibit  
8 was prepared under my supervision and control and is true and  
9 accurate. The location of Billings, as pointed out before, was  
10 ruled out early. Great Falls had been considered as an  
11 alternate to Billings for the second 180 megawatt unit, but  
12 was eliminated since there was already a major source of genera-  
13 tion at this location; in effect, we would be shipping the coal  
14 to Great Falls and then transmitting the power elsewhere.

15 The first one that we visited was Townsend. The advantage  
16 of this location was that it was in the center of what you might  
17 consider as a hub of our transmission system. If you recognize  
18 that Billings, Great Falls and the Butte-Anaconda area form a  
19 triangle, Townsend would be in the center of that triangle. We  
20 considered looping the Billings-Anaconda lines into the Townsend  
21 site and building a new line from Townsend to Great Falls. We  
22 also considered the possibility of running water from the Missouri  
23 River through our plant for cooling and then dumping this water  
24 into Canyon Ferry Lake which would serve as a cooling pond. The  
25 factors against this site were (1) it would probably be most  
26 difficult to obtain the right to use Canyon Ferry as a cooling  
27 reservoir due to its excellent fishing conditions; (2) there was  
28 quite a long railroad haul for the coal supply from Colstrip to



1 Townsend including a climb over the Livingston hill, and (3) the  
2 Townsend area meteorologically would probably be similar to East  
3 Helena where heavy inversion situations exist so that we were  
4 concerned with the problems of air pollution point control.

5 The next site considered was Clarkston. This is a  
6 Burlington Northern train stop between Toston and Three Forks.  
7 We considered using cooling water from the Missouri River with  
8 cooling towers. There was an adequate flat site location;  
9 however, it was located in a deep valley and even though this  
10 area is quite remote and thinly populated, we were concerned  
11 with the air pollution effect on vegetation in such a deep  
12 narrow valley.

13 We then looked at three sites in the Trident-Three Forks  
14 area. The one that appeared most attractive to us was a wide  
15 flat plain east of Three Forks and the Madison River and south of  
16 the existing interstate highway. We considered building a  
17 cooling pond at this location using water from the Madison River.  
18 This site had definite air pollution disadvantages in that there  
19 was already pollution in the area and plant emissions would  
20 normally be carried towards Bozeman. Because Bozeman is in a  
21 basin with the prevailing winds blowing into it, we would be  
22 building a plant in a natural pollution situation. Thus, we  
23 eliminated this site as a viable alternative.

24 We next looked at sites east of Livingston. There were  
25 several along the Yellowstone River that appeared promising. We  
26 had in mind building a cooling pond along the river. There is  
27 a natural non-mountainous route from here to Great Falls so that  
28 it had many of the transmission line advantages of the Townsend

1 site. It was also on a flat railroad route from Colstrip so that  
2 trains would not have to gear up to climb a hill. Thus, we  
3 anticipated that we could negotiate lower freight rates at this  
4 location. Also, we did not foresee any air pollution difficulties  
5 in this area. There was also some indication of local support for  
6 a plant near Livingston. Our economic studies indicated that  
7 Livingston was at least as good as the other sites to the west.

8 We then looked <sup>further</sup> to the east of Livingston and considered a  
9 site in the Cushman area. This is between Lavina and Ryegate and  
10 is where the Burlington Northern Railroad crosses the Milwaukee  
11 Railroad. We selected this as a desirable area to study because  
12 we were concerned about freight escalation in the future and felt  
13 that if we selected a location where there were two railroads  
14 available, we might be in a better negotiating position. There  
15 were several lakes in this area that might be used for cooling  
16 ponds and several other sites where cooling pond reservoirs  
17 could be constructed rather easily. It did not appear to be a  
18 problem area for air pollution control, and it was in a remote  
19 location so that we considered this area good from an environ-  
20 mental standpoint. It also was fairly close to our Billings to  
21 Great Falls transmission line routes so that the power could be  
22 transmitted to the load centers without a lot of extra transmis-  
23 sion lines. The main disadvantage of the site was that it did  
24 not appear that there was an adequate reliable source of water.  
25 However, we did not eliminate it at this time. We felt that we  
26 would have to study the water situation here more closely if it  
27 was otherwise the most desirable site.

28 The next area that we considered was around Colstrip. This

1 area would eliminate any long railroad haul but would require  
2 that we either pump water 30 miles from the Yellowstone River  
3 or drill 9,000 foot deep water wells. We studied eight sites  
4 in the Colstrip area and drilled a test well.

5 We then did economic studies comparing Livingston, Cushman  
6 and Colstrip. The studies indicated that there was not too much  
7 difference between overall costs at the three locations.

8 We then made a separate study comparing Colstrip against  
9 Nichols. Nichols is a site on the Yellowstone River right at  
10 the end of the valley that goes from Colstrip down to the Yellow-  
11 stone. This is Armells Creek Valley. We found that there would  
12 be very little cost difference between these two locations as  
13 long as one assumed that you could not use the Yellowstone River  
14 for cooling. We considered the Colstrip site more desirable  
15 environmentally because at Nichols the plant would be adjacent to  
16 the interstate highway, and we thought that a remote location was  
17 more desirable. Also there was some possibility of fogging of the  
18 interstate from the cooling tower. In addition to this, we would  
19 be subject to freight rate escalation at Nichols.

20 Our ultimate choice, of course, was Colstrip. It appeared  
21 to have no disadvantages environmentally. Its economic aspects  
22 compared favorably with other sites studied and because the  
23 source of coal was located so closely, we would not be subject to  
24 future escalation in freight rates.

25 The final choice was made in the fall of 1970 to build our  
26 next plant at Colstrip. Further studies indicated that this plant  
27 should be around 350 megawatts in size and that it should be  
28



1 constructed for operation to commence in 1975.

2 We subsequently entered into an agreement with Puget Sound  
3 Power and Light Company to build two 350 megawatt plants instead  
4 of one and in which we would each be 50% joint owners in each  
5 plant. The advantages to Montana Power and its customers from  
6 this arrangement were several. We would share the costs of the  
7 development of the Colstrip site instead of doing it all our-  
8 selves. We would have a more reliable situation in that if one  
9 plant was tripped off the line, we would only lose 175 megawatts  
10 instead of 350 megawatts of capacity to our system. Furthermore,  
11 on a unit cost basis, two plants are considerably less costly to  
12 operate than one.

13 An electric utility company is required to provide the  
14 resources to meet its customers' demands. One of the main  
15 criteria involved in any economic study relative to whether to  
16 build a plant or not is consideration as to the lowest cost  
17 alternatives. Such companies do this by forecasting their load  
18 growth into the future and then scheduling power plants in time  
19 to meet this load growth. If the load forecast is overestimated,  
20 a plant may be built sooner than is necessary. This could prove  
21 costly because in the absence of the sale of the excess power to  
22 other utility companies, there might not be enough revenues from  
23 the new electric load growth to support the expenses of the new  
24 plant. On the other hand, if the company underestimates its  
25 load growth, new loads might not be served as they develop,  
26 thereby restricting service to the customers.

27 Due to economies of scale (a larger plant generally speaking  
28 costs less to build per unit of capacity than a small one), an

1 electric utility normally cannot build a plant each year to meet  
2 just the load growth that will occur in that year. Thus, they  
3 either build a large plant before the load growth is enough to  
4 load up the plant and try to sell the resulting surpluses to  
5 neighboring utilities or they try to buy from neighboring  
6 utilities and delay their plant construction until the load  
7 grows enough to require the entire plant. In either case, they  
8 try to minimize surplus capacity because surplus capacity  
9 represents investment for which there is no supporting revenue.

10 Normally in an era of heavy inflation (such as the United  
11 States has experienced for some time), it is more desirable to  
12 build plants early and market the surpluses if such a market  
13 exists. The reason for this is that it results in lower cost  
14 power plants and, thus, lower electric rates. In either event,  
15 electric utilities tend to work together on plant scheduling  
16 because this will minimize their costs and, thus, their electric  
17 rates.

18 A large plant, all other things being equal, costs less to  
19 build per unit of capacity than a small plant. This economy of  
20 scale for coal fired plants apparently extends on up to the  
21 largest units currently being constructed (1300 MW by American  
22 Electric Power Co.). Also, larger units are less costly to  
23 operate. It does not require twice as large a crew to operate  
24 a 700 MW plant as it does to operate a 350 MW plant.

25 However, there are disadvantages in building larger plants  
26 that must be considered. A larger plant might imply larger  
27 surpluses, and there must be a market for these surpluses. Any  
28 plant will have to be shut down for maintenance and for equipment

1 failures from time to time. The electric load must be served  
2 while the plant is down. Thus, the utility company needs reserve  
3 capacity either on its own system or through an arrangement with  
4 neighboring utilities. A larger plant will require larger  
5 reserve capacity.

6 These disadvantages, as well as economies of scale, have to  
7 be considered in selecting the most economic size for a power  
8 plant. If several utilities join together in the construction of  
9 a plant, they gain the economies of scale because they can con-  
10 struct a plant large enough to meet all of their needs, and they  
11 also eliminate the disadvantages of a large plant. That is, each  
12 utility owns a smaller portion of the large plant so that its  
13 reserve requirements are lower.

14 The electric load on a utility company system varies from  
15 hour to hour. It is usually heaviest in the evening and the  
16 lightest in the early morning hours. The load also varies from  
17 season to season. In Montana it is heaviest in December and  
18 January due to electric heating, while in Idaho the irrigation  
19 and air conditioning load makes the summer months heaviest. Thus,  
20 generation capacity is required at certain times that is not  
21 required at other times. Utility companies meet these varying  
22 load conditions by using a variety of different type plants.  
23 There are those which run at a high load most of the time. These  
24 are called base load plants. Those that run a smaller percentage  
25 of the time are called intermediate load plants, and those that  
26 are held in reserve or just run during the heaviest <sup>load</sup> hours of the  
27 year are called peaking plants. Generally, base load plants are  
28 those that use the lowest cost fuel that is available, such as



1 mine-mouth coal-fired plants or nuclear plants. These tend to be  
2 high capital cost plants but are the most efficient so as to  
3 minimize fuel costs. Intermediate plants tend to be those of  
4 lesser efficiency and with higher fuel costs, and peak plants  
5 are those that use very high cost fuel and with high maintenance  
6 and low efficiency but with low capital costs. These generally  
7 are the older ones or small turbine plants that burn oil or gas.

8 The siting studies that led to the selection of the Colstrip  
9 location for Units 1 and 2 included all of these considerations.  
10 Montana Power had need for base load generation. Considering the  
11 size of our load and load growth, reserve consideration and  
12 economies of scale, a 350 MW unit was the economic choice. We  
13 chose 1975 for construction completion because we were able to  
14 make arrangements with neighboring utilities to buy power until  
15 this plant was nearly loaded when it became available. Then we  
16 found that Puget Sound Power and Light Company had need for power  
17 about this same time. This meant that we could build two 350 MW  
18 plants instead of one. We would then own one-half of each, so we  
19 would get the economies of scale of a 350 MW plant but the reserve  
20 impact of two 175 MW plants, which is much less. Thus, the deci-  
21 sion to enter into the joint ownership agreement with Puget Sound  
22 Power and Light Company was to our mutual benefit and will result  
23 in lower costs and electric rates than would otherwise occur.

24 Colstrip 1 and 2 generating units are designed for a gross  
25 output of 350 MW each and for a net of 330 MW each. Unit No. 1  
26 was originally scheduled for July 1, 1975, but because of delays  
27 it began commercial operation on November 14, 1975. Unit No. 2  
28 was originally scheduled for July 1, 1976, and it now appears that

1 it will be about six weeks late.

2 Late in 1971 it became apparent that there was need for  
3 additional generation in the Northwest for the 1978-79 time  
4 period. There was not time to plan and construct a nuclear unit  
5 to fill this gap and the availability and cost of oil were ques-  
6 tionable. By August of 1972, The Montana Power Company, The  
7 Washington Water Power Company, Puget Sound Power & Light Company,  
8 Portland General Electric Company and Pacific Power & Light Com-  
9 pany had determined that their forecasts showed a combined defi-  
10 ciency of approximately 1,400 megawatts in this time period. Thus  
11 Montana Power could not elect the alternative of delaying our  
12 next plant until it was fully loaded and in the meantime buy  
13 power from the neighboring utility companies because they also  
14 would be short of power at this time. The first four of the com-  
15 panies named above authorized a feasibility study to determine if  
16 plants in the Colstrip area could meet this need. (Pacific Power  
17 & Light Company later joined this effort.)

18 The companies initially considered building three 500 mega-  
19 watt units to meet this deficiency, one each in 1977, 1978 and  
20 1979. However, the timing was such that it appeared more appro-  
21 priate to plan for a 700 MW unit in 1978 and one in 1979 instead.

22 The original schedule for Unit No. 3 was to be July of 1978,  
23 and Unit No. 4 was to be July of 1979. The foregoing schedule was  
24 delayed for one year during the fall of 1974; that is, to July of  
25 1979 and July of 1980. It now becomes apparent that we will be  
26 forced to delay Units 3 and 4 for another year to July of 1980  
27 and July of 1981. The reason for these delays is the amount of  
28 time which has been taken by the various state of Montana depart-

1 ments in processing the application and the amount of time taken  
2 for the hearings.

3 The total megawatts for the four Colstrip units is 2,060  
4 megawatts of which The Montana Power Company will own approxi-  
5 mately 36% or 750 MW of peak and 595 MW of energy. Montana Power  
6 owns 50% of Units 1 and 2 and 30% of Units 3 and 4. Because of  
7 the joint ownership principle, Montana Power in effect will own  
8 two 165 MW plants (its interest in Units 1 and 2) and if Units 3  
9 and 4 are allowed, an additional two 210 MW plants (its interest  
10 in 3 and 4). The advantages of this joint ownership are many but  
11 the chief ones are that it reduces reserve requirements, multiple  
12 plants are less costly to operate than one and there is more  
13 reliability in the event of outages.

14 Applicants' Exhibit No. 16 is denoted "Colstrip-Pacific  
15 Northwest Study" and is dated November 17, 1972. This particular  
16 exhibit is a joint study produced by a task force of planning  
17 engineers from each of the four companies participating at that  
18 time. This would include The Montana Power Company, Puget Sound  
19 Power & Light Company, Portland General Electric Company and  
20 The Washington Water Power Company. As indicated in the report  
21 the deficiency of resources in the 1978-79 period prompted these  
22 companies to suggest studying installation of two 700 megawatt  
23 generators at Colstrip in addition to Colstrip Units 1 and 2.  
24 The object of the study was to determine the transmission line  
25 requirements for a total of 2,100 megawatts of generation in  
26 the Colstrip area. The generation included in the study was based  
27 upon Units 1 and 2 each having a capability of generating 350 mega-  
28 watts and Units 3 and 4 each having a generation capability of 700



1 megawatts, a total of 2,100 megawatts of generation. Subsequently  
2 the study was extended to include the capability of the transmission  
3 network to carry additional generation beyond the foregoing four  
4 units. The basic idea was to determine the economics of trans-  
5 mitting different amounts of power across Montana into the Bonne-  
6 ville Power Administration system. I was one of the Montana Power  
7 engineers who was responsible for the developing of the report and  
8 the exhibit was prepared under the supervision and control of the  
9 planning engineers from each of the four companies named above.  
10 It is my opinion that the exhibit is true and accurate. The results  
11 of the study (Applicants' Exhibit 16) showed a transmission cost  
12 of \$73.00 per kilowatt if two 500 KV circuits were constructed  
13 across the state of Montana and these lines were used together  
14 with the existing system to transmit the power from Colstrip Units  
15 1-4.

16 The study was extended to look at up to 4,200 megawatts of  
17 generation to see if the transmission economics would change signi-  
18 ficantly with the addition of a third line. It showed that 3,500  
19 megawatts could be transmitted at a cost of \$66.00 per kilowatt  
20 with ~~three~~ lines. The study also considered dropping generating  
21 units in case of transmission line troubles. If this were done,  
22 2,800 megawatts could be transmitted at a cost of \$57.00 per kilo-  
23 watt with a two line plan and 4,200 megawatts at \$57.00 per kilo-  
24 watt with a three line plan.

25 These results indicated that 2,100 megawatts could be trans-  
26 mitted across Montana at a cost that was reasonable, \$73.00 per  
27 kilowatt, that if we ever wanted to add an additional 700 megawatt  
28 unit to the eastern end of the Montana system, this might be accom-

plished by dropping that unit whenever one of the two 500 KV lines  
1 got into difficulty and that the transmission costs would drop to  
2 \$57.00 per kilowatt if that capacity were installed. The results  
3 further indicated that 3,500 megawatts could be transmitted with  
4 the addition of a third line and 4,200 megawatts with the third  
5 line and generator dropping.

6 The study of additional units (mentioned as Units 5, 6 and  
7 7 at page 2 of the exhibit) did not, of course, constitute any  
8 specific or particular plan for generation at the Colstrip site.  
9 The study did, however, indicate to us that the 2,100 megawatts  
10 of generation at the Colstrip site would make use of the two 500  
11 KV lines at near the optimum transmission cost.

12 Applicants' Exhibit No. 17 constitutes the results of Montana  
13 Power Study No. 4 and is an economic comparison of single ownership  
14 by Montana Power as compared with joint ownership generation for  
15 The Montana Power Company. The Colstrip-Pacific Northwest Study  
16 (Applicants' Exhibit No. 16) indicated the cost of transmission to  
17 the four companies involved in the study but it did not cover the  
18 study of whether or not Colstrip Units 3 and 4 would be the most  
19 economic alternative for any individual company. Applicants'  
20 Exhibit No. 17 is the final report based upon the studies that  
21 Montana Power did to determine if the Colstrip generation plan was  
22 its least cost alternative. The exhibit was prepared by engineers  
23 of The Montana Power Company and the material contained therein was  
24 presented to the Board of Directors of The Montana Power Company  
25 by me on June 19, 1973 (page 2 of Exhibit 17), as a basis for pro-  
26 ceeding with the Colstrip Units 3 and 4 project. It was prepared  
27 in the usual and ordinary course of business of Montana Power and  
28 during its preparation I supervised the same. I believe it to be  
true and accurate.

1       The study comprising Exhibit No. 17 eventually resulted in  
2 comparing the annual costs of two main alternatives as set forth  
3 at page 1 of the exhibit. The first alternative, shown on the  
4 left side of page 1, constituted a generation plan wherein Montana  
5 Power developed generation on its own system to meet only our own  
6 load requirements as forecast. This involved a gas turbine of 100  
7 megawatts in 1978, a 350 megawatt coal-fired unit at Colstrip in  
8 1979 and a further 350 megawatt coal-fired unit at Colstrip in  
9 1985. Also included in this alternative was the necessary trans-  
10 mission to move this power to the load center within our system.  
11 The second alternative, shown on the right side of page 1, was a  
12 generation plan under which Colstrip Units 3 and 4 would be  
13 developed by the four companies. For Montana Power, this involved  
14 30% of a 700 megawatt coal-fired unit at Colstrip in 1978 (210  
15 megawatts allocated to Montana Power), 30% of a 700 megawatt coal-  
16 fired unit at Colstrip in 1979 (210 megawatts allocated to Montana  
17 Power), a 100 megawatt gas turbine in 1985 and 40% of a 700 mega-  
18 watt coal-fired unit in 1986 (280 megawatts allocated to Montana  
19 Power). This last unit was included so that the same amount of  
20 generation would be considered in both plans. Without doing this,  
21 the comparison of annual costs in the two plans would not be valid.  
22 When we studied these plans, we recognized that the decision as to  
23 what generation was to be built in 1985 or 1986 would be made upon  
24 the alternatives that existed at that time but the two plans had to  
25 contain the same generation so that they could be compared with  
26 each other and this was the way that we chose to balance them.  
27 We also included in this joint ownership plan the necessary trans-  
28 mission including the two 500 KV lines. When the report was made



1 to our Board of Directors, including pages 3-9 of Exhibit 17, I  
2 stated that the 1986 700 megawatt unit contemplated in alternative  
3 No. 2 might be located at Colstrip or it could be a nuclear unit  
4 located somewhere else in the northwest area.

5 The economic study embraced in Applicants' Exhibit No. 17  
6 resulted in an annual cost savings to Montana Power and its custo-  
7 mers of between \$4 million and \$5 million per year if Montana  
8 Power were to participate in the proposed joint ownership of  
9 Colstrip Units 3 and 4 as compared with Montana Power building  
10 the generation alone. As pointed out above, the second alterna-  
11 tive (joint ownership with other companies) was based upon 30%  
12 participation by Montana Power but we also studied participation  
13 of 25% and 35% by Montana Power and found that the savings remained  
14 essentially the same.

15 Turning next to the lead time necessary to put on line a  
16 coal-fired steam generating unit, my estimate is that it will now  
17 take from 9½ to 10 years in Montana. Included in the foregoing  
18 estimate is approximately two years for the selection of a site  
19 location and for the accumulation of meteorological data (air,  
20 temperature, weather, etc.), approximately 2½ years for the  
21 obtaining of a permit under the Montana Utility Siting Act, and  
22 approximately five years for placing orders for the materials  
23 and for building the plant.

24 I have previously discussed how and why Montana Power made  
25 the decision to select the Colstrip site for Units 1 and 2. Once  
26 this site was selected and money was spent to develop it, the  
27 Colstrip site also became the logical place for the construction  
28 of Units 3 and 4. This decision was based upon the same reasons

1 why the Colstrip area was selected for Units 1 and 2 as well as  
2 the additional factor of the site having already been developed  
3 as a result of Units 1 and 2.

4       However, I should also point out that Montana Power, in the  
5 past has made studies, as it continues to do, of other alternatives  
6 to compare with coal-fired steam plants. Prior to committing our-  
7 selves to the construction of the J. E. Corette plant in Billings,  
8 we worked with Bechtel Corporation to make such a study which was  
9 completed in 1964. The name of the study is "The Montana Power  
10 Company System Study" and it constitutes Applicants' Exhibit No.  
11 119. Montana Power personnel aided Bechtel Corporation in the  
12 preparation of this study and many employees of the companies  
13 contributed to the study. The chief Montana Power contributors to  
14 the study were Roger Hofacker and I. Mr. McDonald, a planning  
15 engineer with Bechtel Corporation, was in charge of the study.  
16 I have learned upon inquiry that McDonald left the employment of  
17 Bechtel Corporation some ten years ago or thereabouts and appa-  
18 rently is now located in Australia. I have learned that Warren  
19 Leffman, who has previously testified in this case, aided in the  
20 preparation of the study but his contribution was of a very minor  
21 nature, having to do only with the analysis of fuel costs, annual  
22 costs on fuel stock investment, fixed charges and operation and  
23 maintenance costs as set forth in several tables annexed to the  
24 exhibit. The study was requested and contributed to by Montana  
25 Power in the usual and ordinary course of its business. The main  
26 purpose of the study was to aid Montana Power in its charting of  
27 a long range plan of resource development for its power system.  
28 The period spanned by the study was specified to start with the

1 1965-66 operating year and end in 1979-80. The study considered  
2 whether expansion of the then existing hydro system of the Montana  
3 Power was the most economically attractive alternative and, if  
4 not, what were other attractive alternatives. The study concluded  
5 that it would be necessary for Montana Power to build coal-fired  
6 steam generating capacity to meet both energy and peak load re-  
7 quirements after 1968. We found that there was very little addi-  
8 tional energy to be developed from the then existing hydro plants  
9 because most of the water was already being used and accordingly  
10 expansion of an existing hydro was not an alternative to base load  
11 coal-fired steam power plants in order to take care of the Montana  
12 Power energy problems. Compared to relatively low incremental  
13 peaking costs available from steam plant construction, expansion  
14 of existing hydro facilities for peaking power was not generally  
15 economically attractive.

16 As has been testified by Mr. O'Connor and Mr. Hofacker,  
17 Montana Power has been a party to the Snake River development  
18 proposal and to proposals to develop the Buffalo Rapids hydro-  
19 electric sites in western Montana. However, these projects have  
20 been pending for over twenty years so we certainly cannot count  
21 on them to be ready in time to meet our current needs. Our share  
22 of the Snake River development would be 208 megawatts of peak but  
23 only 51 megawatts of average energy. At Buffalo Rapids, our plans  
24 were to develop 264 megawatts of peak and 119 megawatts of average  
25 energy. It is our present plan to develop these units if they are  
26 available after the developments of Units 3 and 4.

27 We are continually looking at the development of nuclear  
28 power as an alternative to building coal-fired steam electric



1 plants. Nuclear power is the economic alternative for many  
2 utilities in the nation today and although this may be also true  
3 for us in Montana at some future time, nuclear power is certainly  
4 not an economic alternative for us at this time. One reason is  
5 that a nuclear power plant needs to be very large to be economic-  
6 ally feasible. Around 1,100 megawatts in a single unit appears  
7 to be the economically desired size at this time. Montana Power  
8 could not build an 1,100 megawatt unit on its system when our  
9 load is less than 1,000 megawatts because the outage of one plant  
10 would have a terrific adverse impact. Our neighboring utility  
11 companies would not be interested in building an 1,100 megawatt  
12 nuclear unit on our system in Montana and then transmitting much  
13 of the power to their system. It makes more sense to build such  
14 a unit in a heavy load area.

15 During the year of 1969 or thereabouts, I studied the break-  
16 even cost of nuclear units compared with coal-fired steam plants.  
17 It appeared that if the cost of coal were about 24¢ per million  
18 BTU in terms of dollars at that time, a nuclear unit would break  
19 even with a coal-fired plant, assuming, of course, that you could  
20 build a nuclear plant of the foregoing size in Montana. At the  
21 time of the foregoing study, our coal costs appeared to be about  
22 12¢ per million BTU. At the present time, nuclear units appear  
23 to cost in excess of \$100 per kilowatt more than coal-fired units.  
24 In fact, recent data lists nuclear units as \$95 to \$315 per kilo-  
25 watt more costly than coal-fired units. Thus when compared to a  
26 coal-fired steam plant at this time, nuclear units on the Montana  
27 Power system are not a viable alternative to Montana Power. It  
28 takes approximately 10 to 12 years to get a nuclear unit on line,

1 considerably more time than required for Colstrip Units 3 and 4.  
2 Accordingly, the time element eliminates the nuclear unit as an  
3 alternative to Montana Power for meeting our needs in the 1980  
4 period.

5 We have also considered oil and gas-fired fossil plants,  
6 such as the Bird plant in Billings. This plant was usually sup-  
7 plied from a small gas field in Wyoming but was equipped to burn  
8 oil when the price was right. That gas field is now essentially  
9 depleted and oil is far too expensive when compared to coal so  
10 the Bird plant is used as a stand-by plant and for peaking in the  
11 very heavy load hours of the year.

12 At the time that we committed to building the Corette plant,  
13 the price of coal was approximately 10¢ per million BTU. Today  
14 it appears to be about 34½¢ per million BTU (\$6 per ton). The  
15 oil at the time of the Corette plant decision was about 40¢ per  
16 million BTU (\$2.50 per barrel) whereas now it is about \$2.00 per  
17 million BTU (\$12.50 per barrel). Also the availability of oil  
18 is now only problematical and many utilities are converting oil-  
19 fired plants to coal. It should be noted also that the national  
20 policy is to phase out oil-fired plants by 1980.

21 It accordingly appears obvious to us that hydro-electric  
22 power, nuclear power and oil and gas are not viable alternatives  
23 to Montana Power for this time period.

24 Other alternatives that have been considered are the more  
25 futuristic ones such as coal gasification or liquification, solar  
26 power, geothermal power, magnetohydrodynamics and wind power.

27 Coal gasification or liquification involves the use of coal  
28 to produce a clean fuel to fire the plant. No such power plants

1 exist in the United States today. Commercial gasified or liquified  
2 coal-fired power plants may very well be a reality in the late  
3 1980's. Because Montana Power markets coal, natural gas and  
4 electric power, we follow this technology closely. The earliest  
5 demonstration of this technology in the power generation field  
6 in this country was commenced by the Commonwealth Edison Company  
7 at a station in Illinois. Clean fuel gas was to be used to drive  
8 a 70 megawatt turbine generator with the station to be completed  
9 in late 1976 and with a test program to begin in 1977. However,  
10 the project has been cancelled recently because of high costs.  
11 There are many active research projects in this area and the  
12 Electric Power Research Institute estimates that by the middle of  
13 the 1980's the first commercial unit might be available. It would  
14 be some time after that, however, before anyone would invest in a  
15 1,400 megawatt installation of this type unit.

16 Much literature has appeared lately relative to the utiliza-  
17 tion of solar power to produce electricity. This, of course,  
18 involves the process of obtaining energy from the sun. While the  
19 process has been utilized to heat homes, no technology has yet  
20 been developed to utilize solar power for commercial electrical  
21 power plants of any significant size. It accordingly appears that  
22 this means of power generation is many years away from fulfillment.

23 Geothermal technology, the harnessing of heat from underground  
24 water, is another alternative but there are no known practical  
25 applications of this resource in Montana at this time.

26 Magnetohydrodynamics is a comparatively new technology using  
27 ionized hot combustion gases to produce electricity. It appears  
28 to be more efficient than present technologies as applied to the



1 combustion process. Plans were recently announced to build a  
2 coal burning pilot plant in Butte utilizing this process. The  
3 process, however, is in its infant stage and even if successful,  
4 it appears to be 15 to 20 years away in time.

5 Wind powered electric generators have been in existence for  
6 about 50 years. The largest unit ever built in the United States  
7 was 1,250 KW. It operated for about four years and then was shut  
8 down due to technical difficulties and high costs.

9 Some use of wind machines may develop gradually in Montana  
10 but probably will not become a major source of energy unless  
11 large, efficient units are developed along with low cost energy  
12 storage systems. The problems are low power density, variability  
13 of wind conditions, need to develop satisfactory electrical con-  
14 trols, energy storage systems, and proven economics and operational  
15 reliability.

16 To sum up, the decision to apply for a permit to build Units  
17 3 and 4 at Colstrip was based upon the facts that we had selected  
18 Colstrip as the most logical site, that there was a definite need  
19 for 1,400 megawatts of power capacity commencing in 1978-1979 and  
20 thereafter, that two 700 megawatt units were the most economic  
21 alternative and that other possible alternatives were not feasible.  
22 Montana Power's participation in the joint venture is our lowest  
23 cost alternative to meet our electric power needs in the future  
24 and this will result in the lowest cost to our customers.

25 Applicants' Exhibit No. 15 has been prepared in order to  
26 present various time elements involved in the planning for Colstrip  
27 Unit No. 3. It was prepared under my supervision and control and  
28 I believe it to be true and accurate.

1       A review of the most pertinent dates included in Exhibit 15  
2 follows. In about December of 1971, it became apparent to the  
3 five companies who are the applicants in this case that there  
4 would be a deficiency of power in the future as pointed out above.  
5 Preliminary studies were made commencing as early as about December  
6 of 1971 relative to the problem and in August of 1972 all of the  
7 applicants except Pacific Power & Light Company met and agreed to  
8 study the feasibility of constructing two 700 megawatt units at  
9 Colstrip in order to meet the forecasted power deficiency. Shortly  
10 thereafter we started Bechtel Corporation on preliminary plant  
11 engineering studies, and they began to develop design criteria  
12 for a turbine generator (T/G) in about March of 1973. Around  
13 April of 1973 the four companies decided that they wished to go  
14 ahead with the project and they met with the governor of the state  
15 of Montana and other officials to discuss the matter in May of  
16 1973. In view of the forecasted need for power, the companies  
17 asked that a part of the 600 day time requirement be waived as  
18 allowed by the Montana Utility Siting Act. Application for a  
19 siting permit was filed in June of 1973 and we awarded the order  
20 for a turbine generator to Westinghouse in June of 1973. By  
21 September of 1973 we had specifications completed for the boiler  
22 and we then asked for bids. It took the boiler manufacturers  
23 until mid-November to prepare these bids and after receipt of the  
24 bids Bechtel and the participants evaluated these bids and awarded  
25 an order for the boiler in February of 1974. Air pollution con-  
26 trol equipment studies were performed by Bechtel with the intent  
27 of awarding this order in the late fall of 1974. However, by this  
28 time it became apparent to us that the Department of Natural

1 Resources was not going to release its recommendation prior to  
2 the full 600 days and that the possibility of getting a construc-  
3 tion permit in time to go forward with our original schedule  
4 (Unit No. 3 in July of 1978 and Unit No. 4 in July of 1979) was  
5 practically impossible. We accordingly made a decision to post-  
6 pone the schedule for the two units by one year. In November of  
7 1974 we also placed a hold on all vendor engineering and cut back  
8 the Bechtel design engineering team from about 100 men to 30; this  
9 was later reduced to three men.

10 As pointed out above, it is now apparent that we cannot meet  
11 the 1979-1980 schedule so we have rescheduled the units for July  
12 of 1980 and July of 1981. In order to meet these dates, we  
13 restarted engineering and the placement of major orders in December,  
14 1975. If the Colstrip 3 and 4 Project is approved, we would hope  
15 to begin the power plant excavation in July so that foundations  
16 are complete in time to start boiler steel erection on Unit 3 in  
17 August, 1977. We would begin to test out the plant's many complex  
18 systems in July of 1979 and the plant should be ready for commer-  
19 cial operation in July of 1980. Unit No. 4 would follow this  
20 schedule by one year.

21 Coal-fired power plants are for the most part custom built.  
22 The boiler, for instance, for a 700 megawatt coal-fired steam  
23 plant using Colstrip coal and located at Colstrip, Montana, is  
24 unique to Colstrip. It is designed for that particular elevation  
25 and that particular type of coal. The same thing can be said for  
26 the air pollution control equipment and many of the other plant  
27 components. These components are not independent of each other.  
28 The boiler must be specified and purchased before the air pollution



1 control equipment can be specified and so on down the line. Plant  
2 design will not be complete until the plant is almost constructed.  
3 Thus, it has been necessary to do a great deal of engineering and  
4 to place purchase orders for some \$110,000,000 worth of major  
5 equipment in order to maintain a reasonable schedule and to deter-  
6 mine the required information necessary in the planning and pre-  
7 paration for such a major project.

8 Applicants' Exhibit No. 17-A is a study intended to show the  
9 embedded and cancellation costs that the applicants are accruing  
10 as to Units 3 and 4 by months. The basic assumption of the study  
11 is that the engineering and procurement will continue at a level  
12 necessary to support the beginning of excavation during July of  
13 1976 so that Unit 3 can be completed in accordance with the 1980  
14 schedule. Exhibit No. 17-A was prepared under my direction and  
15 control and I believe it to be true and accurate. Figures in  
16 the exhibit are in thousands of dollars. The exhibit indicates  
17 that the five companies had invested \$19,807,000 in the project  
18 by November 1, 1975, and that these costs are increasing each  
19 month. As of March 1, 1976, it is forecast that an investment of  
20 \$20,825,000 will have been made. None of these costs can be  
21 recovered if the project is cancelled for any reason.

22 Montana Power's share of the generation resulting from  
23 proposed Units 3 and 4 is 420 megawatts. The question has been  
24 raised as to why Montana Power should not build one unit of  
25 approximately 420 megawatts solely for its own use.

26 To begin with, a unit of this size would present a problem  
27 to our company in view of the rather modest load which we carry,  
28 less than 1,000 megawatts. Providing an adequate reserve factor

1 would be a tremendous problem; if a unit of this size breaks down  
2 for any reason, the impact upon our entire system would be adverse.  
3 Furthermore our studies indicate that without question a joint  
4 venture arrangement with other companies in more than one unit,  
5 such as is in effect with Units 3 and 4, is much more economical  
6 in the long run to the company and its customers. Another factor  
7 not to be overlooked is the fact that for many years Montana Power  
8 has been buying a fair percentage of its power needs from other  
9 companies in the northwest; our partners in this venture are  
10 going to be hard pressed for resources and Units 3 and 4 will  
11 help them meet their needs as well as the needs of Montana Power.

12       There has been some suggestion that Units 3 and 4 should be  
13 delayed until Units 1 and 2 come on line in order to determine  
14 effects of Unit 1 and 2. This argument can, of course, be made  
15 about any plant in any time period. There is always going to be  
16 something else on the horizon that might aid us in planning our  
17 next plant. However, if this procedure is consistently followed,  
18 there is no question that a utility company at some stage will  
19 be delinquent in supplying the power that its customers require.  
20 There is a definite need for the power to be provided by Units 3  
21 and 4 by all of the applicants and the project represents the  
22 lowest cost alternative to Montana Power and its customers. A  
23 curtailment now according to our forecasts will result in a  
24 deficiency of our resources in the future thereby resulting in a  
25 shortage of power to our customers. Building the plant now will  
26 provide jobs in Montana that are badly needed. The investment,  
27 most of which will be paid for by out of state owners, will add  
28 greatly to the Montana tax base. Under the present time schedule,



1 we will have the benefit of experience from Colstrip Unit No. 1  
2 pollution control equipment so that any needed modifications can  
3 be made. Our research in the past, including pilot plant studies  
4 at the Corette plant, indicates that Units 3 and 4 will meet  
5 applicable state and federal standards. A further delay as to  
6 Units 3 and 4 will greatly increase the costs of installation.  
7 We think that the escalation rate figure of 7% per year is a con-  
8 servative figure and in the long run the increased costs of instal-  
9 lation will necessarily have to be paid by the customers. At the  
10 foregoing rate of escalation the two year delay in the schedule  
11 has already raised the cost of the units approximately \$94,000 000.

12 If Units 3 and 4 are allowed to be built, Montana Power's  
13 next generation could well come from the hydro projects considered  
14 above (Buffalo Rapids and Snake River). These hydro projects  
15 could provide the necessary resources until the late 1980's,  
16 assuming their full development after 3 and 4 are built. On the  
17 other hand, if the hydro projects are not authorized in time the  
18 next step could possibly be the construction of one or more 40-50  
19 megawatt combustion turbines for the period commencing in 1983-84,  
20 assuming the fuel is available for them, followed by base load  
21 generation from a coal-fired generating unit of approximately 350  
22 megawatts or thereabouts to come on line around 1985-86 or a share  
23 in nuclear units somewhere in the northwest. There definitely  
24 have not been any specific studies or plans for the installation  
25 of any further Colstrip units other than Units 1 through 4.

26 No definitive study has been made as yet as to alternatives  
27 to Units 3 and 4 if for any reason they are not constructed. Our  
28 first attempt would probably be to purchase, if possible, the



1 needed generation. In view of the power crunch presently being  
2 experienced by all utility companies, this alternative is defin-  
3 itely a gamble. We might be forced to turn to combustion turbines  
4 of 40-50 megawatts each; however, these would take approximately  
5 four years to put on line and in view of their disadvantages  
6 (the cost of fuel and the phase out of such units under the  
7 national energy policy) combustion turbine units are certainly  
8 not a welcome alternative. We could attempt to participate with  
9 other companies in plants to be built in the Pacific Northwest;  
10 however, the problem with this is that there are no other plants  
11 available to furnish the necessary power needed during the criti-  
12 cal shortage period in the future. Another alternative would be  
13 to build a coal-fired plant for Montana Power alone. Here again,  
14 however, we are looking at a time frame of close to ten years and  
15 such a unit would not come on line to meet our needs in the  
16 critical period ahead.

17         The Colstrip Units 3 and 4 project, including the plant  
18 facilities and most of the associated facilities, are located in  
19 Township 2 North, Range 41 East, and Township 1 North, Range 41  
20 East. In addition, a river pumping plant is located in Township 6  
21 North, Range 40 East, and pipelines connect this pumping plant to  
22 the project surge pond. It is also proposed that in the future,  
23 an additional ash and sludge disposal area will be developed  
24 in Township 1 North, Range 42 East. All facilities are in  
25 Rosebud County, Montana.

26         The permanent land area requirements for the Colstrip Units  
27 3 and 4 project are estimated as follows:  
28

1	Main plant facilities	180 acres
2	Cooling towers	13 acres
3	Brine concentrator ponds	90 acres
4	Evaporation and sludge disposal ponds	615 acres
5	River water surge pond	168 acres
6	River intake and pumping plant	10 acres
7	Switchyard and substation	81 acres

8 All of the areas listed above will serve the needs of the  
9 existing Colstrip Units 1 and 2 project, with the exception of  
10 the cooling tower area which will be devoted exclusively to  
11 Units 3 and 4. The brine concentrator ponds, presently  
12 utilized for Units 1 and 2, now occupy 49 of the above-listed  
13 90 acres. As the brine concentrator ponds are filled, they  
14 will be dried, covered with soil and re-vegetated. In the mean-  
15 time, additional ponds will be constructed in order to replace  
16 those filled and we estimate that approximately 90 acres will  
17 ultimately have been disburbed.

18 A like situation exists for the evaporation and sludge  
19 disposal areas, estimated above as requiring approximately 615  
20 acres. The initial area, about 112 acres, will be developed in  
21 1976. It will be used for Units 1 and 2 as well as Units 3  
22 and 4 if the latter are approved. When it is full, it also will  
23 be dried, covered with soil and re-vegetated. In the meantime,  
24 a new area will be developed. The first two evaporation and  
25 sludge disposal ponds that we propose are approximately 6500  
26 feet northwest of the plant site. Ultimately an additional area  
27 such as the one that we have located in Township 1 North, Range  
28

1 42 East will need to be developed.

2 The locations of the evaporation and sludge disposal ponds  
3 are shown on Applicants' Exhibit No. 51, previously introduced  
4 into evidence.

5 In addition to the above described permanent areas required  
6 for Units 3 and 4, there will also be a need for the following  
7 estimated land requirements only during the construction of the  
8 Units:

9		
10	Construction storage areas	60 acres
11	Temporary trailer camps	130 acres
12	Bachelor camp and mess hall	10 acres
13	Parking lots	5 acres

14 The foregoing areas will be reclaimed after construction. Some  
15 of the foregoing areas are presently in use for Units 1 and 2.

16 In addition to the areas listed above for plant site  
17 facilities and temporary construction use, there is an area  
18 consisting of approximately 6 acres located south of the surge  
19 pond that will be provided by the Unit 1 and 2 Project as a  
20 recreation facility to be used by the general public. Improve-  
21 ments are being made so that the area can be used for picnic  
22 and similar purposes.

23 A part of the ground contemplated for future sludge and  
24 ash disposal has not yet been acquired.

25 Approximately 180 acres of the land that has been acquired  
26 for Colstrip Units 1 through 4 was normally cultivated for dry  
27 land crop farming prior to its acquisition. Its yield was



1 approximately 40-50 bushels of wheat per acre as to the land  
2 planted each year. Practically all of the remaining land  
3 described above would be classified as grazing land and would  
4 support approximately one animal per 30 acres. Additional  
5 acreage which will be acquired in the future in the event  
6 that Units 3 and 4 are approved will be grazing land.

7 I have indicated above that certain of the area devoted  
8 to the units will be reclaimed and re-vegetated during the life  
9 of the plants. The life expectancy of the plants is approximately  
10 37 years and when the plants are retired, the area will be  
11 abandoned and restored to its best agricultural use, grazing or  
12 farming. There is, of course, always the possibility that in  
13 the meantime the land areas might acquire other uses not  
14 contemplated at this time, in which case they will be devoted to  
15 the new uses; however, at this time, I am aware of no plans to  
16 utilize the areas for purposes other than those mentioned above.

17 There are a few scattered trees in the area, but they are  
18 not considered merchantable. There are also some scoria deposits  
19 which have been used for dike and road construction.

20 I know of no specific area-wide state and regional land-  
21 use plans which are applicable to the land described above.  
22 There are, of course, regulations applicable to development in  
23 and about the town of Colstrip, and these have been followed  
24 during its development.

25 Existing nearby land use, exclusive of the town of Colstrip,  
26 over the years has been devoted mainly to ranching and farming.  
27 In addition, nearby areas have been devoted to the strip mining  
28

1 of coal. The activity associated with coal mining over the  
2 years has coexisted with nearby agricultural area. These  
3 activities will, of course, be conducted in the future, as in  
4 the past.

5 If Units 3 and 4 are not built, then areas which are planned  
6 to be devoted to these two units only will be utilized for the  
7 same uses as in the past, primarily ranching and farming.

8 Construction practices followed during the construction of  
9 Units 1 and 2 are those normally and usually utilized in the  
10 construction of such facilities. The same construction  
11 practices will continue throughout the construction of Units 3  
12 and 4 if they are approved. Several construction practices should  
13 be commented upon specifically. Careful dust control practices  
14 have been followed, including the use of scoria for temporary  
15 roads and the use of water trucks.

16 A full-time safety engineer supervises safety practices  
17 on the job and a first aid station has been employed since the  
18 beginning of construction. Noise standards set by the United  
19 States Department of Labor, Occupational Safety and Health  
20 Administration (OSHA) have been and will continue to be met.

21 We intend to control erosion, scouring or wasting of any  
22 of the lands described above which will be utilized for the  
23 Colstrip plants. I know of no such problems to date. Much of  
24 the main plant site will be covered by blacktop and vegetation.  
25 The vehicular traffic will generally be limited to paved permanent  
26 roadways and scoria-surfaced temporary and little used roadways.  
27 A drainage control program has been established and followed in  
28



1 order to prevent erosion at the plant site area. The reclaiming  
2 of lands utilized for strip mining for coal to be used at the  
3 site will be developed by other witnesses in these hearings.

4 Very little scenic impact is anticipated from the  
5 construction of the units. The facility, of course, is unique  
6 for this locality, but building architectural treatment as well  
7 as landscape architectural treatment has been applied to the  
8 plant site and immediate surrounding area. Every step is being  
9 taken to present an attractive industrial complex, so that it  
10 will not conflict with the adjacent areas.

11 We anticipate no impact on any important historic,  
12 architectural, archaeological, or cultural areas and features.  
13 None of the foregoing are known to exist in the area which is  
14 contemplated to be devoted to the Colstrip units.

15 We know of no opportunity for joint use with energy  
16 intensive industries or other activities to utilize the waste  
17 heat from the Colstrip facilities.

18 Analysis of coal from the Colstrip area indicates the  
19 presence of trace amounts of radioactive substances, such as  
20 radium, uranium and thorium. The quantities found are so low  
21 as to be insignificant. It accordingly appears that no land-  
22 use controls over development and population, waste disposal,  
23 or special safeguards or monitoring are required.

24 The U. S. Department of Labor, Occupational Safety and  
25 Health Administration (OSHA) has adopted occupational noise  
26 standards which will apply to the Colstrip plants. These  
27 standards apply to plant personnel and require that protection  
28



against the effects of noise exposure shall be provided when the sound levels exceed the following values:

Permissible Noise Exposure

<u>Duration Per Day, Hour</u>	<u>Sound Level dBA Slow Response</u>
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

The term dBA is a measurement of sound pressure levels (decibels as read by the A scale of a standard meter).

Noise performance specifications are required before purchase for much of the plant's equipment. In many cases, it is practical to buy equipment which by itself meets OSHA minimum occupational noise exposure regulations. In situations where it is not, the noise can be reduced by enclosures, barriers, silencers for pneumatic noise, duct lagging, pipe lagging and the use of sound absorbing material.

OSHA Noise Regulations will be taken into account in the design of Units 3 and 4. Then after the plant is operating, additional noise reducing features will be added as required in order to meet the standards.

Construction noise will be minimized by the use of appropriate silencers and mufflers on noisy equipment. It will comply with OSHA regulations as listed above. During construction noise impacts might be produced if it is necessary to use pile driving equipment for foundations or during steam blowing for

1 initial plant start-up. These operations will normally be  
2 confined to daylight hours and minimized as much as practical.

3 In order to control outdoor operating noise after the  
4 plant is completed, we will specify the noise level of the  
5 cooling tower fans and provide insulation for the induced draft  
6 fans. Other items that might produce appreciable noise would be  
7 located indoors. We estimate that with these appropriate  
8 precautions noise level from the Colstrip plants while operating  
9 should be less than 45 dBA in the Colstrip housing area. To put  
10 this into perspective, this level of noise is about 30% of that  
11 that would exist in an average office.

12 The State of Montana occupation noise standards (Section  
13 16-2.14(6)-S14280, et seq., of the Montana Administrative Code),  
14 are essentially the same as the OSHA standards and will be  
15 complied with. We know of no potential stricter noise standards.

16 Adequate monitoring devices are being utilized by trained  
17 personnel in order to establish the noise levels at Units 1 and  
18 2 and will also be used at Units 3 and 4.

19 The Colstrip plant design for all units takes into  
20 consideration the seismologic characteristics of the Colstrip area.  
21 Because of the location of the area little or no seismic activity  
22 is anticipated.

23 Geologic suitability of the site area was taken into account  
24 in the selection of the plant site and associated facilities. The  
25 design of the plant and facilities also consider the geology of  
26 the area.

27 There has been a lot of discussion recently about possible  
28 violations of the air pollution standards by the operation of  
Montana Power's J.E. Corette Plant in Billings. This plant has



1 different air pollution controls than those proposed for Colstrip  
2 Units 3 and 4 but an explanation would appear to be in order.

3 The J. E. Corette 180 MW coal-fired steam plant was  
4 the first coal plant to go into service on Montana Power system.  
5 Equipment was ordered for this plant in 1964, prior to any state  
6 air quality control legislation, and construction was completed  
7 in 1968. This plant is equipped with an electrostatic precipitator  
8 for its pollution control device, whereas the pollution control  
9 device for the Colstrip Units is a venturi scrubber system.  
10 The precipitator was specified and purchased before there were any  
11 such devices in operation for use with Western low sulfur coal,  
12 but it was the best pollution control device known at the time for  
13 fly ash collection. Due to technological difficulties with low  
14 sulfur coal and electrostatic precipitators, Montana Power made  
15 extensive modifications of the boiler, ducting and precipitator  
16 thereafter which doubled the cost of the installation but finally  
17 resulted in performance improvement enough to meet the state  
18 emission standards, although under certain conditions it was  
19 necessary to run at a reduced load. An operating procedure was  
20 then established so that the plant would meet the standards under  
21 all conditions. The State Health Department contends that we  
22 may not be meeting the standards under all conditions at this  
23 time. We believe that more testing is necessary to determine if  
24 in fact we are in violation of the emission standards. In the  
25 event that emission standards are being violated under some  
26 conditions, we will make the necessary modifications to the plant  
27 in order to comply.

28 There will be no adverse impact as a result of surface



1 water runoff from or near the Colstrip plant site into existing  
2 streams or otherwise.

3 Subsequent to the preparation of the foregoing statement,  
4 Congress has passed the Hell Canyon National Recreation Act and  
5 President Ford has signed it. This will eliminate the possibility  
6 of the development of the Snake River power mentioned above.

SUPPLEMENTAL STATEMENT OF  
TESTIMONY OF ROBERT LABRIE

Applicants' Exhibit No. 104 was introduced into evidence during my testimony in the Board of Health hearing. It projected our cost estimate for the Colstrip Units 3 and 4 project at that time as \$669,952,000. This was based upon a schedule of 1979 for Unit 3 and 1980 for Unit 4.

Because of the time taken for these hearings, we are now rescheduling Unit 3 for 1980 and Unit 4 for 1981. This has increased the cost estimate due to escalation ("escalation" as used herein means increased costs due to inflation) for one more year in excess of \$40,000,000.

Applicants' Exhibit No. 104 (Revised) was prepared under my direction and control and is true and correct. The new estimated cost of Units 3 and 4, as shown on the new exhibit, totals \$776,059,000 and includes the following increases and decreases:

Escalation for one year	\$40,000,000
Decrease in basic scrubber estimate	(7,400,000)
Addition of wash trays to scrubber	13,000,000
Addition of waste water concentrators	24,000,000
Labor increase due to recent field experience	15,000,000
Increase in taxes due to above items	381,000
Increase in allowance for funds used due to construction for above items	19,626,000
Increase in client costs	1,500,000

1 HEARINGS EXAMINER: Mr. Shenker, you may cross-  
2 examine.

3 MR. SHENKER: Thank you Mr. Davis. I presume I  
4 should follow the same procedure as before with respect  
5 to reserving statements on the exhibits until after  
6 concluding my cross-examination?

7 HEARINGS EXAMINER: Very well.

8  
9 EXAMINATION OF ROBERT LABRIE

10 Cross on Written Statement

11 By Department of Natural Resources and Conservation

12 By Mr. Shenker:

13 Q Mr. Labrie, the job of load forecasting for the Montana  
14 Power Company has been that of Roger Hofacker for the last  
15 number of years, has it not?

16 A Yes.

17 Q And although you had some management of the planning function  
18 for the Montana Power Company, that focused more squarely on  
19 site selection than on forecasting needs, didn't it?

20 A Economic stress. I've had some input into the load fore-  
21 casting, but not in the last year.

22 Q Now in your statement filed for this hearing, Mr. Labrie,  
23 you make the observation that the site selection for Colstrip  
24 units 3 and 4 is closely connected with the prior decision  
25 to build Colstrip 1 and 2. That's sort of a euphemism, isn't  
26 it, sir?

27 A What's a euphemism?

28 Q The decision to build Colstrip 1 and 2 dictated the decision



1 to build Colstrip 3 and 4, isn't that right?

2 A To some extent, certainly, and the studies that were done  
3 to decide to build units 1 and 2 were directly applicable  
4 to the decision to build 3 and 4.

5 Q When you decided to build Colstrip 3 and 4, you did not sit  
6 down and say, okay, let's do some environmental studies of  
7 a number of alternate sites and determine which of the ones  
8 we think is best from an environmental impact statement, did  
9 you?

10 A Not within the State of Montana, no.

11 Q Well, as a matter of fact, even though you go at some length  
12 in your statement to the decision to look at alternates for  
13 Colstrip units 1 and 2, the fact of the matter is that there  
14 is not one single piece of paper anyplace in the coffers of  
15 the Montana Power Company that records an environmental  
16 assessment made of any alternate to Colstrip 1 and 2 site,  
17 isn't that true?

18 A Well, I don't know what you'd call environmental assessment.  
19 There's an awful lot of testimony in here that talks about  
20 the environmental considerations that we went into in  
21 selecting the site for Colstrip 1 and 2. And those same  
22 arguments are directly applicable to the selection of the  
23 site for Colstrip 3 and 4. And then on Colstrip 3 and 4,  
24 in the spring of 1973, why, we did hire Westinghouse to make  
25 an environmental assessment before we finally made our  
26 decision to go with Colstrip 3 and 4.

27 Q Now, sir, let's back up to my question. I asked you about  
28 Colstrip units 1 and 2, on which we know there are reams

1 of material that were generated by your planning department  
2 on economic studies, right?

3 A That's correct.

4 Q Computer analyses, books that are inches thick independently,  
5 and numbers of books that look at various configurations on  
6 transmission, on generation, depending on what assumptions  
7 you fed in for economic purposes, right?

8 A That's correct.

9 Q Is there a single piece of paper anyplace in the coffers of  
10 the Montana Power Company which looks at environmental  
11 considerations at any time prior to the decision to build  
12 Colstrip 1 and 2 there?

13 A There are pieces of paper which are reports that talk about  
14 the pros and cons of different sites that mention the  
15 environmental aspects of it as well as the economic aspects.

16 Q Is it your testimony, Mr. Labrie, that there are pieces of  
17 paper predating the decision to go to Colstrip 1 and 2, at  
18 Colstrip 1 and 2, which do state environmental concerns?

19 A I believe there are, yes. The reason that we left the  
20 Billings site was an environmental concern.

21 Q Oh, I know that you felt bad about hurting the environment,  
22 Mr. Labrie. I'm just asking you about whether you recorded  
23 your feelings, and that's what I haven't seen after a year  
24 and a half of discovery.

25 A Oh, I think the study which you have on a hundred and eighty  
26 versus three thirty has some commentary on this in it, as  
27 I recall. I know that we discussed in detail, and I believe  
28 that it's in the writing, but this is a new question. I

1 would have to go back now and research to find out in each  
2 report whether we discussed the environmental considerations,  
3 but I assume that we did in most of them.

4 Q Well, let me see if I can't jog your memory on it a little  
5 bit, Mr. Labrie. I know it's hard now after you've committed  
6 your views to written statements and testified on a number  
7 of occasions, tried to shepherd these hearings through. It's  
8 hard to divorce yourself from the context of seeing your  
9 words in writing after this became a contested and adjud-  
10 icated case. But it is true, isn't it sir, that the nature  
11 of your environmental concerns in considering options prior  
12 to the choice to go to Colstrip 1 and 2 was chit-chat, isn't  
13 that right?

14 A No, it was not chit-chat.

15 Q Tell me who you sought out as an expert environmental con-  
16 sultant to advise you on any alternate site before Colstrip  
17 1 and 2 were chosen?

18 A I don't know that you can call Bechtel an environmental  
19 consultant, per se, but I know that in our deliberations when  
20 we looked at the Three Forks site and the Clarkson site and  
21 the Townsend site, we had specific environmental problems  
22 to deal with and these weighed heavily in our judgment not  
23 to go with those sites, and Bechtel partook in those con-  
24 versations and so did we. Now, the extent to which this is  
25 written down, I would have to check.

26 Q Well, you know who environmental consultants are. You hired  
27 them to assist you in processing your application for this  
28 proceeding?



1 A I know that Westinghouse is an environmental consultant who  
2 we hired. I said I don't know that you can call Bechtel as  
3 an environmental consultant, per se, although they certainly  
4 deal in environmental matters, don't they?

5 Q As a matter of fact, they have an environmental department  
6 which you did not consult, isn't that true?

7 A We consulted people that were from that area, yes.

8 Q Before you chose Colstrip 1 and 2?

9 A That I can't recall. Either way.

10 Q You have a number of witnesses who are to testify in this  
11 proceeding, whom you would call environmental consultants,  
12 isn't that true?

13 A That's correct.

14 Q Now, did you contact any of them while you were trying to  
15 assess the options and alternatives besides Colstrip?

16 A You mean for Colstrip 1 and 2 site selection?

17 Q Yes, sir.

18 A No, sir, we did not contact Westinghouse when we were looking  
19 at the Colstrip 1 and 2 site selection.

20 Q How about Frank Dunkle?

21 A I've had a number of contacts with Frank Dunkle while he was  
22 in the Fish and Game Department. I can't recall whether they  
23 dealt with -- oh, let's see -- I can't recall that they did  
24 deal with Colstrip 1 and 2 site selection.

25 Q How about Bob Stockman?

26 A No, I didn't know Bob Stockman at that point in time.

27 Q Mr. Labrie, you know, don't you, that you did not consult a  
28 single environmental specialist outside Bechtel, the contrac-

1 tor, before you chose Colstrip 1 and 2? Now that's true,  
2 isn't it?

3 A Why, I believe so. I said that we worked with Bechtel.

4 Q Okay. Now you just referred a moment ago to the study that  
5 compared a hundred and eighty versus three hundred and thirty  
6 megawatts. If you put that in its time frame, that was  
7 about the time in which you thought that the general climate  
8 in Billings, and I refer not to the weather but to the  
9 politics, was not conducive to building a second facility  
10 there, isn't that right?

11 A Oh, as I testified, or somebody testified last spring -- I  
12 guess I didn't -- back in 1969 we had a boiler on order for  
13 Corette number 2, and at the time, we were having difficulty  
14 in making our electrostatic precipitator work, and it didn't  
15 seem appropriate to us to, in the light of that difficulty,  
16 go ahead with our plans to build another unit at that  
17 location at that point in time.

18 Q You had opposition, didn't you?

19 A What?

20 Q You had opposition, didn't you?

21 A Well, we had some newspaper articles that were in opposition  
22 to it, certainly.

23 Q The word opposition doesn't bother you, does it?

24 A I don't know. In what context are you talking about?

25 Q I'm just kind of curious as to why you're fencing with me on  
26 that term. It's the one that appears on the first page of  
27 your statement at line 27. You say that there was some  
28 opposition to our installing another plant at Billings.

1 A Well that's right, yeah.

2 Q You agree with that, don't you? It's your statement.

3 A Yes.

4 Q Speaking of environmental considerations for the alternatives,  
5 at the top of page 3 of your statement, you point out that  
6 the Townsend area meteorologically would have been like  
7 East Helena. Did Larry Faith come up to take a look at  
8 Townsend for you?

9 A No. Actually this recalls to my mind the fact that you  
10 might say we did consult with an environmentalist. We  
11 talked to, I believe his name was Dightman, and he was the  
12 meteorologist that was located in Helena with some Federal  
13 Aviation Agency or something like this, about the possibil-  
14 ities of difficulties in Townsend area because of the  
15 difficulties that were occurring in East Helena, and we knew  
16 that he was quite close to that situation and we were most  
17 concerned with pollution matters and trying to find a site  
18 that we could stay out of trouble on, so that's why we  
19 talked to him.

20 Q Have you found a site now where you're going to stay out of  
21 trouble?

22 A That may not exist anywhere.

23 Q Did he write you a report?

24 A Did we write a report?

25 Q Did he write you a report? Mr. Dightman?

26 A I don't recall.

27 Q As you go on to describe the next site on page 3, you discussed  
28 the area between Poston and Three Forks where you were



1 concerned with the air pollution effect upon vegetation. Is  
2 that a bad thing?

3 A It certainly can be. We're not interested in harming  
4 vegetation.

5 Q What were you concerned about as to an air pollution effect  
6 on vegetation?

7 A We were concerned about a situation similar to what one  
8 would find in a deep valley where the plume rise would not  
9 be adequate to keep it from impinging upon the walls of the  
10 canyon.

11 Q What happens to the vegetation?

12 A Well, if you have vegetation that is in direct contact with  
13 the output of a plant, even with the best type of pollution  
14 control such as we have, why the parts per million of con-  
15 centration of sulfur dioxide would be greater than what the  
16 ambient standard allows. This is why you have a tall stack.

17 Q What happens to the vegetation?

18 A Well, I'm sure that there are biologists or people in this  
19 area that could testify more adequately than I could. You  
20 can sustain sulfur dioxide damage of vegetation if you have  
21 too high a concentration.

22 Q You mean, like trees die, leaves die, and organisms don't  
23 live right?

24 A Right. And we were talking about a concentration of a  
25 number of hundred parts per million, not of one tenth of a  
26 part per million such as the standard calls for.

27 Q Ever heard about damage to vegetation when there was a  
28 concentration of point oh five parts per million?

1 A Not that -- no.

2 Q Now you continue to discuss alternatives in your statement,  
3 Mr. Labrie, and you look at the Great Falls area, but observe  
4 that the Great Falls transmission line routes were such that  
5 power could be transmitted to load centers without a lot of  
6 extra transmission lines. Now I infer from your statement  
7 that that's a good thing. Is that right?

8 A Where are you, Mr. Shenker?

9 Q Page 4, lines 20 through 22.

10 A Oh, page 4?

11 Q Yes.

12 A Well, this was primarily an economic consideration.

13 Q Well, is not building a lot of extra transmission lines a  
14 good thing from an economic standpoint?

15 A Well, I would think so, yes.

16 Q Why is that?

17 A Because transmission lines cost money.

18 Q The fewer transmission lines you build, the better you are  
19 for your consumers, right?

20 A As a general statement without any other --

21 Q The shorter distance you have to traverse between the  
22 delivery of the power and the sending of the power, as a  
23 general statement, the better things are, right?

24 A Depending upon what other costs are involved, of course.

25 Q In looking at what kind of units you would build when you  
26 got to Colstrip, Mr. Labrie, you got into something called  
27 the economy of scale.

28 A Yes, sir.

1 Q Now we've talked about that before, you and I, but I believe  
2 not on this record, I think only in the course of depositions  
3 in the past. As I understand your view with respect to the  
4 economy of scale, there is a point above which you should not  
5 continue to build in larger size, coal-fired electric gen-  
6 erating stations because it's now becoming diseconomic, is  
7 that right?

8 A Well, I don't say that there isn't such a point. But, I  
9 will say that it apparently is at the maximum size that  
10 units can be built at the present time by virtue of the fact  
11 that AEP, American Electric Power, for instance, is building  
12 a whole series of thirteen hundred megawatt coal-fired  
13 plants and they've done extensive economic studies. So, in  
14 their area, or their particular situation, apparently the  
15 economies of scale extend up to thirteen hundred megawatts.

16 Q AEP, is that the one that has the advertisement about the  
17 tombstone for scrubbers?

18 A Yes.

19 Q And they have plants up to thirteen hundred megawatts, is  
20 that right?

21 A That's right.

22 Q So at least you know that up to thirteen hundred megawatts  
23 you're going to have some economy of scale, right?

24 A I can't say that in our particular case there would be  
25 economies of scale of thirteen hundred megawatts. This was  
26 a much more extensive study than that. We concluded that we  
27 could build seven hundred megawatt units economically, but  
28 we did not conclude that we could build thirteen hundred units.



1 Q But, as a matter of fact, your study showed that you could  
2 go up to as high as nine hundred with an economy of scale.  
3 After that it began to slope off because there was a curve,  
4 wasn't there?

5 A That early curve that you're referring to, as I recall, would  
6 show something like that, but it wasn't a specific study of  
7 a specific case.

8 Q All right. Now, one of the reasons that you have an economy  
9 of scale, Mr. Labrie, in terms of the operation of the larger  
10 unit, is, as you quite correctly point out in your statement,  
11 it doesn't require twice as large a crew to operate a plant  
12 that generates twice as much energy, right?

13 A That's correct.

14 Q Another way of saying that is, the larger the unit you build,  
15 the fewer jobs you will create?

16 A Yes, if you want to.

17 Q So if we were trying to serve the objective of creating more  
18 jobs, if that were the objective, we would certainly want  
19 to build two three hundred and fifty megawatt units instead  
20 of one seven hundred megawatt unit, wouldn't we?

21 A I would presume so, because two three hundred and fifties  
22 would use more crew, and the same in Russia, for instance,  
23 they use about ten times as many people in the same plant as  
24 we do, for that matter.

25 Q Less mechanization?

26 A Well, I think they just create jobs by --

27 HEARINGS EXAMINER: They shovel the coal by hand.

28 MR. SHENKER: They shovel the coal, I see.

1 Q Today in the utility business, Mr. Labrie, base load plants,  
2 a term we've had defined previously -- just to put it in the  
3 record again, to mean one that you depend upon all the time  
4 for generating energy -- base load plants are those that use  
5 the lowest cost fuel available and are the most capital  
6 intensive, isn't that right?

7 A As a general rule this is correct.

8 Q Now one of the functions of their capital intensivity is  
9 that they are low level intensive when it comes to labor,  
10 isn't that right?

11 A Do you mean operating labor?

12 Q Yes, sir.

13 A I don't know that that, per se, is right. For instance, a  
14 gas turbine, in some cases, can be automated and not use any  
15 labor for operations.

16 Q Well, I'll put it to you this way, Mr. Labrie, if I wanted  
17 to make oscilloscopes in Colstrip, Montana, or if I wanted  
18 to make chain saws in Colstrip, Montana, and I built a  
19 facility of about the same size as the units which we viewed  
20 the other day, covering the same area, investing the same  
21 amount of capital in equipment, I'd sure have a lot more  
22 employees around, wouldn't I?

23 A Very definitely. Than a steam plant.

24 Q Now, we had quite a bit of conversation with your boss,  
25 Mr. Hofacker on the question of delay. I'm going to have  
26 some conversation with you on that subject, too, Mr. Labrie.  
27 Let's see if we can agree on something. First, Colstrip  
28 Unit 1 was not delayed because of this Utility Siting Act

1 proceeding, was it?

2 A No.

3 Q But it was delayed, wasn't it?

4 A Yes, it slipped a few months.

5 Q Now, was that having something to do with construction  
6 schedules and technology?

7 A Primarily technology and procurement difficulties.

8 Q That happens sometimes, doesn't it?

9 A That's right.

10 Q And although if you want to adhere to a schedule, you try to  
11 avoid those things, you know when you start the project that  
12 that may well happen, right?

13 A We know when we start any project that we can be exposed to  
14 delays for various reasons, that's correct.

15 Q That's the history of major construction, isn't it?

16 A Yes, the history is also that you try to avoid them.

17 Q I didn't hear that.

18 A The history is also that you try to avoid those delays so  
19 that you can plan your project to have it on on time.

20 Q And in the event, of course, of delay, you, as a prudent  
21 planner, would have to have some sort of a contingency plan  
22 as to what you'd do in the event of a delay, right?

23 A Do you mean in meeting the power deficiency created, or what?

24 Q Well, I was speaking in more general terms. If you wanted  
25 to make oscilloscopes starting July 1, 1975, and you didn't  
26 have an oscilloscope plant ready to roll until October 1 of  
27 1975, you'd have to have some contingency like not accepting  
28 contracts, or escape clauses, or something that you would



1 have by way of contingency plan to face the risk of delay,  
2 right?

3 A Yes, in the case of a power plant, why as we get near the  
4 time that we desire to be on the line, if the power shortage  
5 problems are too great, why we would go to double shifting,  
6 extended work week, and things like that to try and pick up  
7 the delay.

8 Q And if you couldn't make up the time, then you'd have to do  
9 something else, wouldn't you?

10 A Yes, like shut the customers off if we didn't have the power.

11 Q That's not very nice, is it?

12 A No.

13 Q The Public Service Commission of Montana frowns on that sort  
14 of thing, right?

15 A Well I assume they should.

16 Q Sure. So another alternative might be to have the power  
17 available from some other source?

18 A If there were a source available to have the power from.

19 Q Sure. Now you had enough brush with the planning department  
20 and load forecast analysis, Mr. Labrie, that you knew, didn't  
21 you, that the year 1975-76 had been planned as a deficiency  
22 year, back a couple of years ago?

23 A That's correct.

24 Q What customers have you shut off during this year?

25 A Well, actually for Colstrip number 1, we planned to have the  
26 unit on in July so that we could debug it before the peak  
27 periods set in. In other words, November and December. And,  
28 as it was, the unit rolled in September and we went through

1 herculean efforts to debug it in a much more rapid fashion.

2 Q Did you cut anybody off?

3 A No. We've been quite fortunate in the startup of Colstrip  
4 Unit Number 1. It's working well.

5 Q Well, even including the Colstrip Unit 1, which is the only  
6 one that you have scheduled to have on during the year --  
7 your planning year '75-'76, that's right, isn't it? Colstrip  
8 2 came on in the planning year '76-'77, didn't it?

9 A That's correct.

10 Q Even with Colstrip Unit 1 on your planning boards, you had  
11 projected as recently as in the last few months, that the  
12 year 1975-76 would have an energy deficit, right?

13 A I don't recall what's been projected in the last few months.  
14 As I related somewhat earlier, I'm no longer in the planning  
15 area so I don't follow those detailed figures as Mr. Hofacker  
16 does.

17 Q I'm handing you what was offered in evidence as Exhibit  
18 Number 3 in connection with the beginning of this hearing  
19 last May. That applies to all of the Colstrip applicants,  
20 Mr. Labrie, and it shows for the year 1975-76 a deficit for  
21 energy, does it not?

22 A Yes, it appears to. I'll have to take your word for it that  
23 it applies to all Colstrip applicants.

24 Q Well, it says that. It says Colstrip 3 and 4 participants  
25 on the exhibit, doesn't it?

26 A Okay.

27 Q Now do you know of the applicants, anyplace in their systems,  
28 having shut somebody off this year?

1 became apparent that there would be additional generation  
2 needed in the Northwest for the time period 1978-1979 and  
3 when that became apparent was 1971?

4 A That's right.

5 Q Now, as a matter of fact, Mr. Labrie, it was your concern  
6 that the original schedule which you evolved with Bechtel --

7 A Pardon me?

8 Q The original schedule which you evolved with Bechtel for  
9 the construction of Colstrip 3 --

10 A Yes.

11 Q -- was a very tight schedule, but one that simply had to  
12 be met or you would go past the critical peak needed for the  
13 other applicants, isn't that true?

14 A We would go past a year where the applicants estimated a  
15 deficiency.

16 Q But you considered that the critical peak year?

17 A I believe they still estimate a deficiency in that period.

18 Q Is it, or is it not the case, sir, that you considered that  
19 their critical peak year by which you wanted to make sure  
20 you adhered to what was, at the very beginning, an extremely  
21 tight schedule?

22 A That was the reason that we wanted to schedule it to meet  
23 1978-79 time periods -- was because the applicants showed  
24 that they had a deficiency in that period. As I recall, it  
25 increased the next year so that the ultimate deficiency at  
26 that point in time was fourteen hundred megawatts by their  
27 estimates.

28 Q You will concede, will you not, Mr. Labrie, that the original



1 schedule which you evolved with Bechtel was an extremely  
2 tight one?

3 A I believe that it was a realistic schedule. I don't know  
4 that I know what you mean by extremely tight. It was the  
5 estimate that Bechtel said was necessary, at the time, that  
6 Bechtel said was necessary to construct the plant and not  
7 slip the schedule and do it without extended work weeks or  
8 double shifting, or something like that. As I recall, it  
9 was tight on the front end because of winter construction  
10 conditions.

11 Q As late as April of last year, it was still your view, was  
12 it not, that you were going to have to have some more con-  
13 versation with Bechtel in order to push them to go earlier  
14 than the date then set for Colstrip 3 and 4, particularly  
15 Colstrip 3, because that date would be too late to meet the  
16 peaks reliably?

17 A I've got to check the schedules. April of last year slips  
18 me in between two of them and I'm a little confused on when  
19 we're talking about.

20 Q We're talking about when I took your deposition.

21 HEARINGS EXAMINER: Mr. Shenker, I don't want to  
22 interrupt your cross, but whenever you would find it  
23 convenient to recess, we can.

24 MR. SHENKER: If the witness might be able to  
25 answer this question then I think I can go to a new  
26 subject.

27 HEARINGS EXAMINER: Well, finish as much of your  
28 line of questioning as you like, but wherever it would



